ORDER NO. AD8907231C5
A2

Service Manual

Cassette Deck

Dolby NR-Equipped Stereo Cassette Deck

RS-B555

DOLBY B·C NR HX PRO*

Color

(K)... Black Type

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	
(E, E5)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy	

* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.
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MECHANISM SERIES: AR350

■ SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
Rec/play	Permalloy head
Erasing	Double-gap ferrite head
Motors	
Capstan	Direct drive DC motor
Reel table drive	DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1⅞ ips)
Frequency response	
NORMAL	20 Hz~18 kHz 20 Hz~16 kHz (DIN)
CrO_2	20 Hz~18 kHz 20 Hz~17 kHz (DIN)
METAL	20 Hz~19 kHz 20 Hz~18 kHz (DIN)
S/N (signal level=max recording level, CrO_2 type tape)	
Dolby C NR on	74 dB (CCIR)
Dolby B NR on	66 dB (CCIR)
Dolby NR off	56 dB (A weighted)
Wow and flutter	0.05% (WRMS) ±0.15% (DIN)
Fast forward and rewind times	Approx. 90 seconds with C-60 cassette tape
Input sensitivity and impedance	
MIC	0.25 mV/400Ω~10 kΩ
LINE	60 mV/47 kΩ
Output voltage and impedance	
LINE	400 mV/800Ω
HEADPHONES	125 mV/8Ω (8Ω~600Ω)

■ GENERAL

Power consumption	21 W
Power supply	
For U.S.A. and Canada	AC 120 V, 60 Hz
For Great Britain	AC 240 V, 50/60 Hz
For others	AC 220 V, 50/60 Hz
Dimensions (W × H × D)	430 × 125 × 290 mm ($16^{15}/_{16}$" × $4^{15}/_{16}$" × $11^{13}/_{32}$")
Weight	4.4 kg (9.7 lb.)

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

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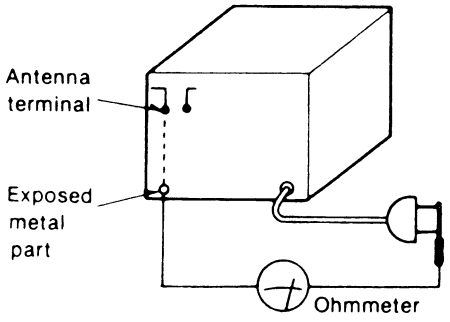
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

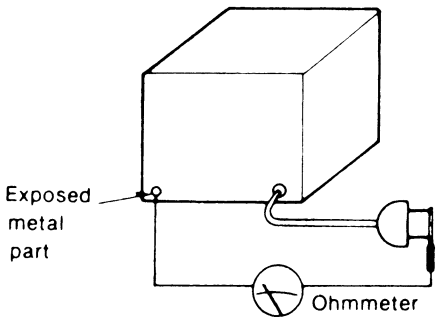
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

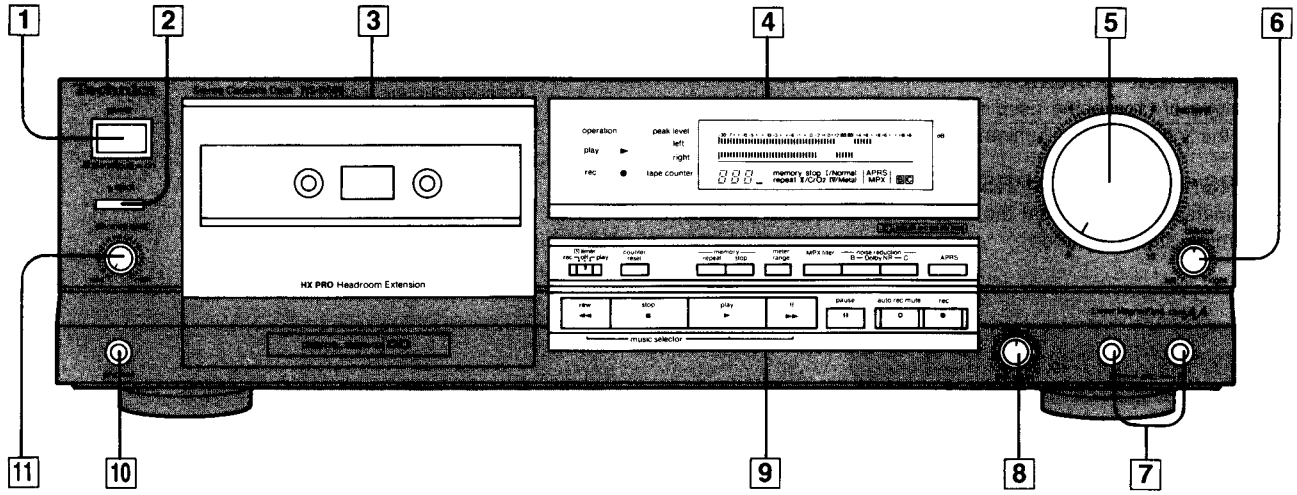
Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ ACCESSORIES

- Stereo connection cables 2
  [SJP2249-3]
- AC power supply cord 1
  [SFDAC05E03: (E, E5, EG)
  SJA175: (PC)
  SJA175-1: (P)
  SJA193-1: (EB)]

■ FRONT PANEL CONTROLS AND FUNCTIONS



1 Power "standby ⏻ /on" switch (power "standby ⏻ /on")
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the "standby ⏻ " position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

2 Eject button (⏏ eject)
This button can be used to open the cassette holder.

3 Cassette holder

4 Display section

5 Recording-level control (rec level)
This control can be used to regulate the recording level and the peak level.

6 Recording-balance control (balance)
Use this control to balance the left and right sound levels during recording.

7 Microphone jacks (mic)

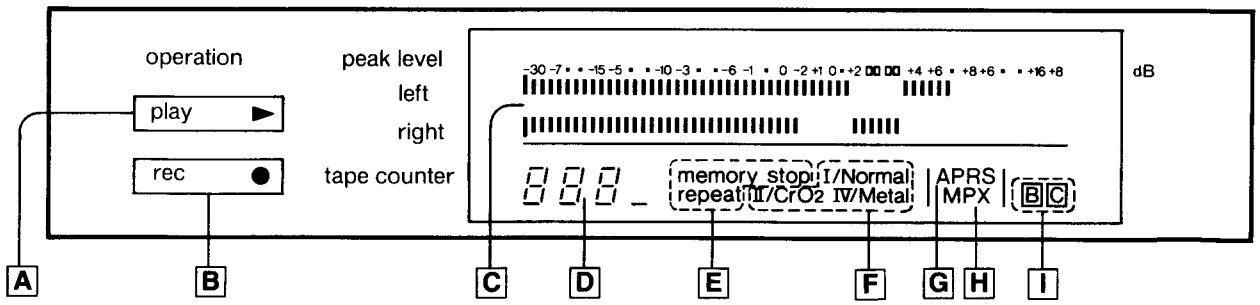
8 Bias-adjustment control (bias adjust)
The frequency response for each tape type can be equalized by using this control.

9 Operation section

10 Headphones jack (phones)

11 Headphones volume control (phones level)

Display section



A Play back indicator (play/▷)
When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode. When it flashes continually, this is an indication that this tape deck is in the pause mode or the recording stand-by mode.

B Recording indicator (rec/○)
This indicator illuminates to indicate that this tape deck is in the recording stand-by mode, or is recording.

C Input level meter (peak level)
During playback, this meter indicates the level of the recorded sound.
During recording, it indicates the level being recorded, adjusted by the recording-level control.

D Tape counter
Indicates the amount of tape movement.

E Memory-mode indicators (memory stop/repeat)
Each indicator illuminates to show which of the memory mode was set by the memory-mode buttons.

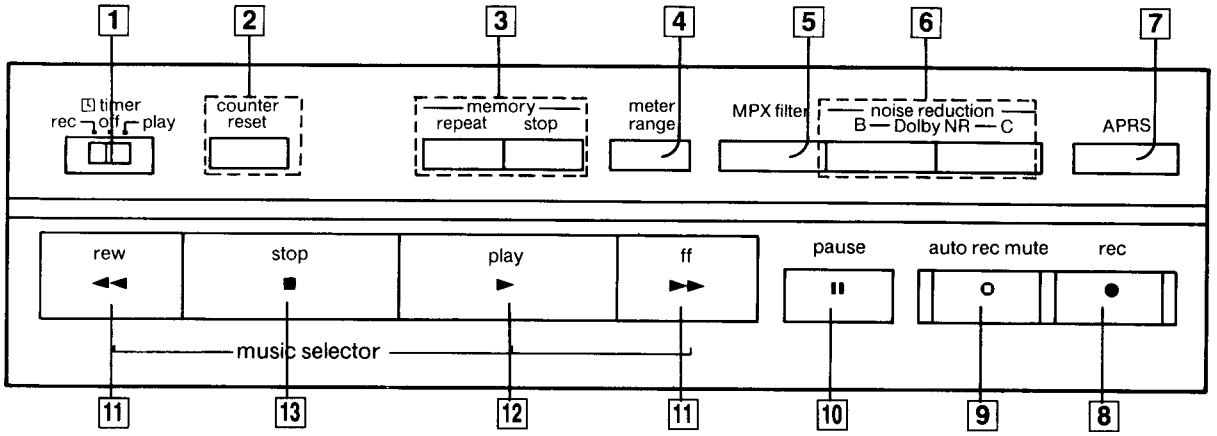
F Tape-select indicators
The type of tape being used will be automatically detected and the indicator will illuminate.

G APRS indicator (APRS)
Illuminates to indicate that the "APRS" is set to "on" in the recording stand-by mode.

H Multiplex filter indicator (MPX)
Illuminates to indicate that the multiplex filter is set to "on".

I Dolby noise-reduction indicators (B, C)
Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

Operation section



1 Timer switch (timer)
This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by a timer (not included).

2 Counter reset button (counter reset)
This button can be used to reset the tape counter indication to "000".

3 Memory-mode buttons (memory repeat/stop)
stop: This button can be used to rewind the tape to the preset "000" point when the rewind (◀◀) button is pressed.

repeat: This button can be used to set this unit to the "A-B repeat" mode.

4 Meter-range selector (meter range)
This selector can be used to select the meter-range display of the input level meter.

5 Multiplex filter switch (MPX filter)
This switch can be used during the recording of an FM stereo broadcast that employs Dolby noise reduction so as to prevent misoperation of the Dolby noise reduction.

6 Dolby noise-reduction buttons (noise reduction)
These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.

7 APRS button (APRS)
This button can be used to hold the peak level while monitoring the input sound.
The "APRS" can only be used in the recording stand-by mode.

8 Record button (rec/●)
This button can be used to change the tape deck to the recording stand-by mode.

9 Automatic-record-muting button (auto rec mute/○)
This button can be used to make a silent interval on the tape being recorded on tape deck.

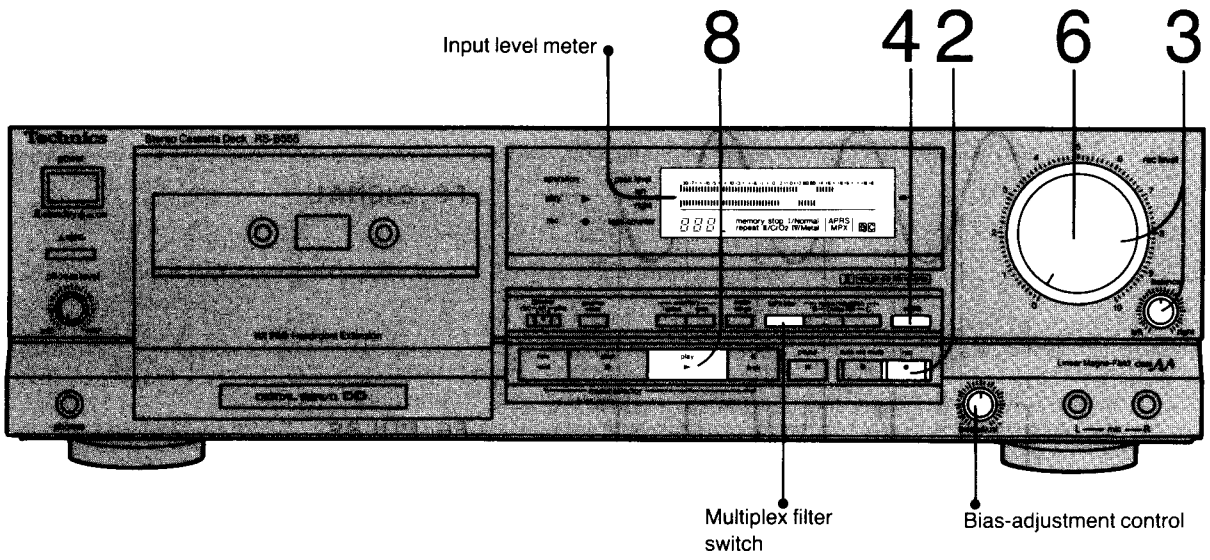
10 Pause button (pause/❚❚)
This button can be used to temporarily stop the tape playback or recording of tape deck.

11 Rewind/fast-forward/search buttons (rew/◀◀/ff/▶▶)
These buttons can be used to fast forward or rewind the tape, or to easily search for the tune's beginning of the tape quickly.

12 Playback button (play/▶)
This button can be used to start the playback or recording of the cassette.
(The tape will then begin moving in the left-to-right direction.)

13 Stop button (stop/■)
This button can be used to stop tape movement.

■ RECORDING WITH HIGH TONE QUALITY



APRS function

Because the dynamic range of cassette tape is narrower than the dynamic range of a digital source, the recording will be too noisy if the recording level setting is too low, and, conversely, the recorded sound will be distorted if the setting is too high.
It was for this reason that it has always been recommended that the signals to be recorded be first (before recording) input to the cassette deck and the recording level then be set while watching the level meter, but, for former conventional level meter equipped with the peak-hold function, it was necessary to re-adjust and input the signals again if the level setting was too high or too low.

This unit, however, is equipped with the **APRS: Advanced Precise Recording-level System**, which holds and displays the maximum peak of the input signal level, so that once the peak level of the source is held, there is no necessity to re-input the source signals, and the optimum recording level can be set.

- The APRS function can be used only during the recording-standby mode.

1 **Prepare for recording as described in steps 1 to 6 of the "Recording" section.**

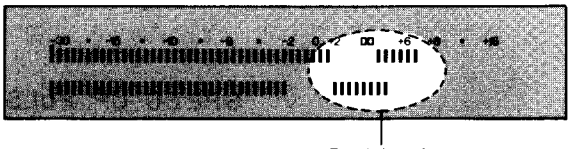
2 [rec]
Press the record button.
(The recording indicator will illuminate and the playback indicator will flash continuously; the unit will be in the recording stand-by mode.)

3 [rec level]/[balance]
Set the recording-level control and the recording-balance control to the suitable position for the sound source.

4 [APRS]
Press the APRS button.
(The APRS indicator will illuminate.)

5 **Play the sound source to be recorded, from beginning to end.**
[The peak level (the highest level of the input signal) of the sound source will be displayed and held on the input-level meter.]

Input level meter



Note:
The range within which the peak level can be held is −8 dB to +16 dB. Note that the APRS indicator will flash continuously if the peak level of the sound source is input at a level that exceeds the maximum recording level (+16 dB).
If that happens, press the APRS button to cancel the APRS function, and then reset the recording level and set the APRS once again.
Also note that the peak level cannot be held to less than −8 dB.

6 [rec level]
Using the recording-level control, adjust the peak level to the desired setting.
The peak level will move to the right when the recording-level control is turned to the right, and will move to the left when the recording-level control is turned to the left.

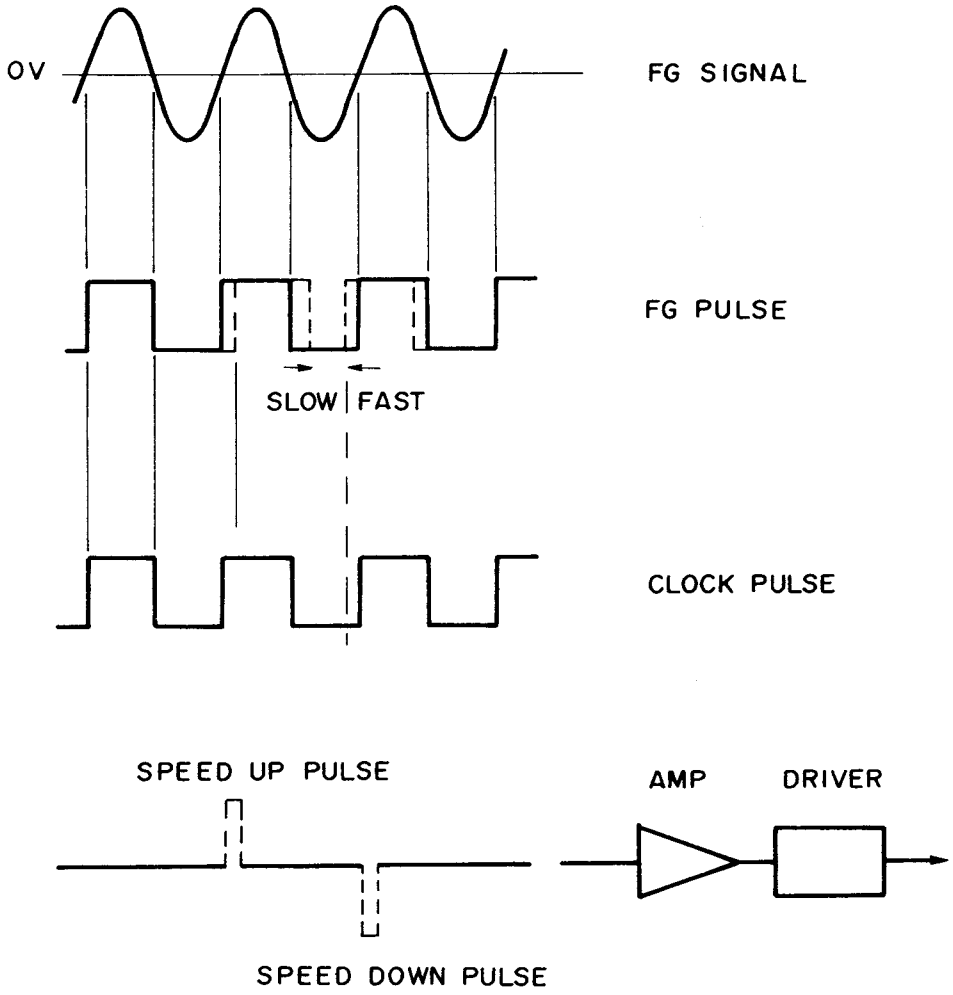
- The recording-balance control cannot be used to adjust the peak level.

7 **Begin playing the sound source from the beginning once again.**

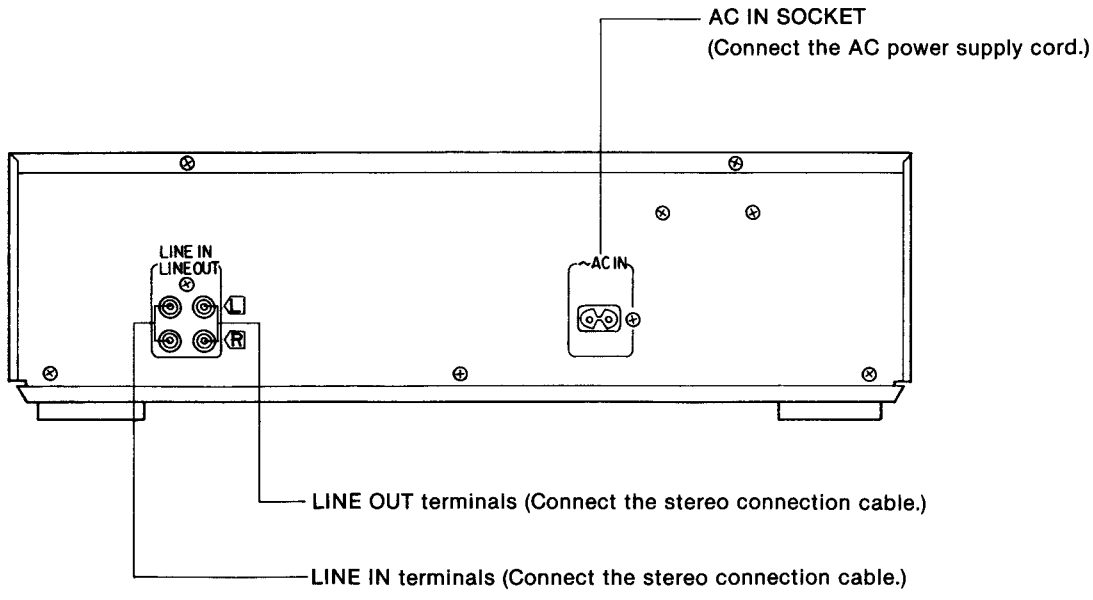
8 [play]
Press the playback button.
(The playback indicator will illuminate steadily, and the recording will begin.)
The APRS indicator will switch OFF, and the indication of the input-level meter will return to the ordinary peak-hold mode.

■ OUTLINE OF THE DIRECT DRIVE MOTOR SYSTEM

The capstan motor is actuated by the DD motor digital servo system. The FG pulse is generated after the detection of the zero crosspoint, and the reference signal generated from the quartz oscillator is compared with this FG pulse. From this comparison, the accelerated and reduced speed pulses are generated, causing the driving coil to function.



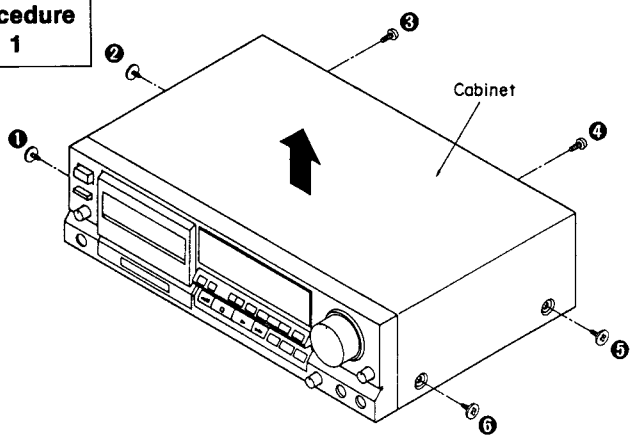
■ CONNECTIONS



■ DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	Removal of the cabinet
Procedure 1	

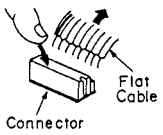


• Remove the 6 screws (❶~❻).

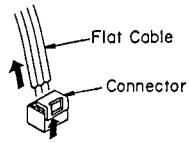
3. Remove the 6 screws (❽~⓭).
4. Remove the 1 connector (CP2).
5. Remove the 4 flat cables (CN3, CN4, CN6, CN201).
6. Remove the main P.C.B. in the direction of the arrow.

How to remove the flat cable

• Pull out the flat cable while pressing the connector.



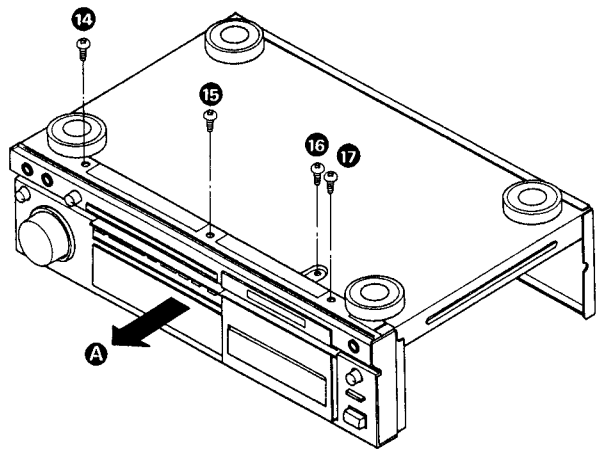
1. Lift the connector.
2. Pull out the flat cable.



How to check the main P.C.B.

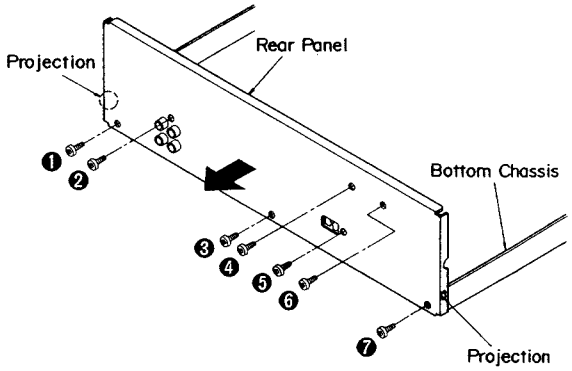
• When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.

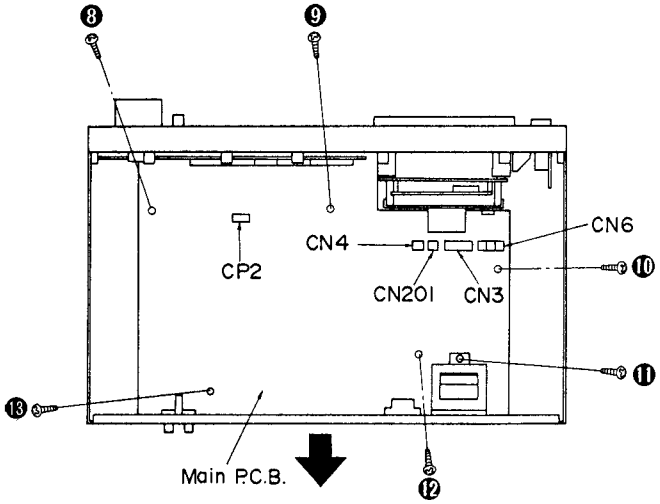
1. Remove the 9 screws (❶, ❸, ❼~⓭) in above figure.
2. Remove the 4 screws (⓮~⓱).
3. Remove the front panel in the direction of the arrow Ⓐ.



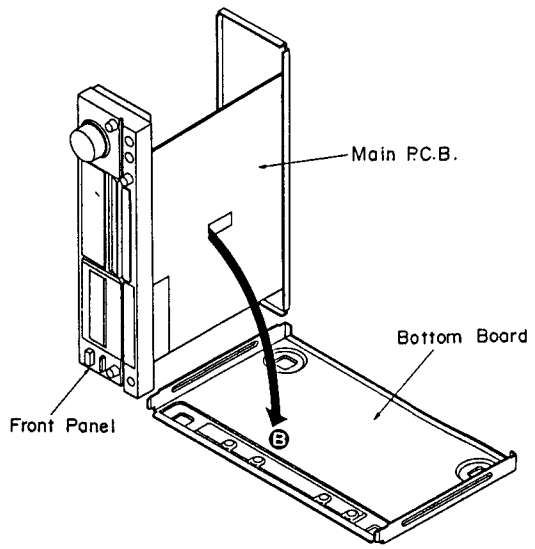
Ref. No. 2	Removal of the main P.C.B.
Procedure 1→2	

1. Remove the 7 screws (❶~❼).
2. Remove the rear panel from the projection of the bottom chassis.

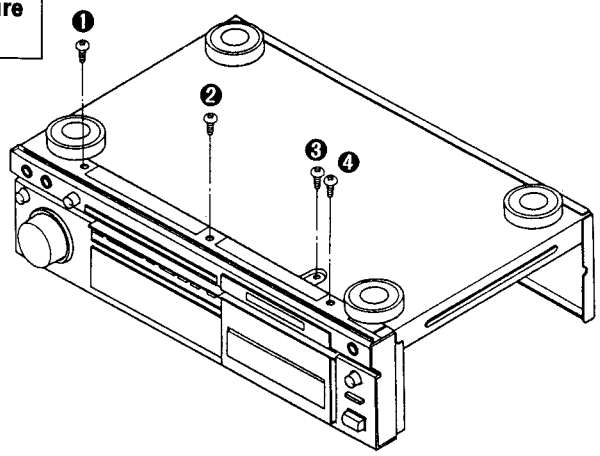




4. Remove the bottom board in the direction of the arrow Ⓑ.
5. Reinstall the front panel to the main P.C.B.

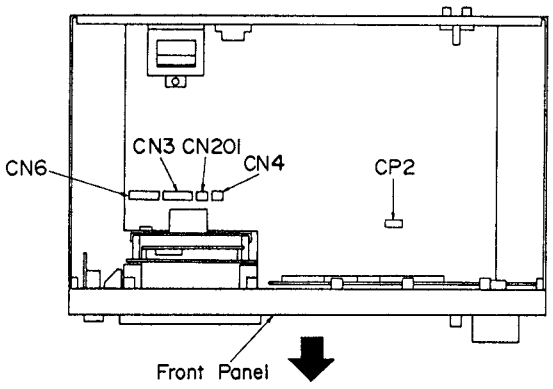


Ref. No. 3	Removal of the front panel
Procedure 1→3	



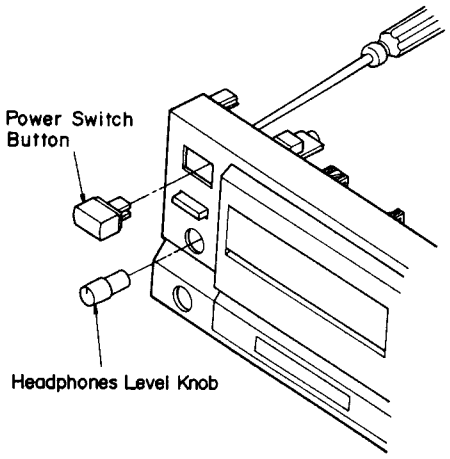
1. Remove the 4 screws (❶~❹).

2. Remove the 1 connector (CP2).
3. Remove the 4 flat cables (CN3, CN4, CN6, CN201).

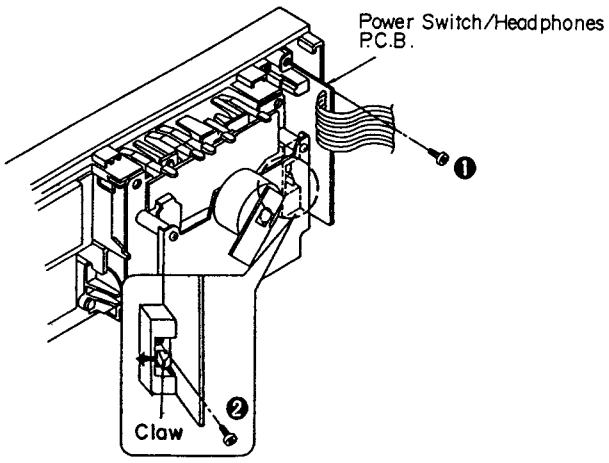


4. Remove the front panel in the direction of the arrow.

Ref. No. 4	Removal of the power switch/ headphones P.C.B.
Procedure 1→3→4	

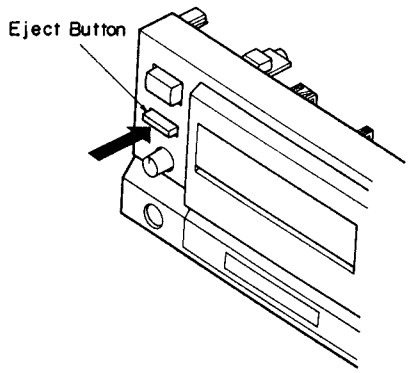


1. Remove the power switch button by pushing it from behind the front panel.
2. Pull out the headphones level knob.

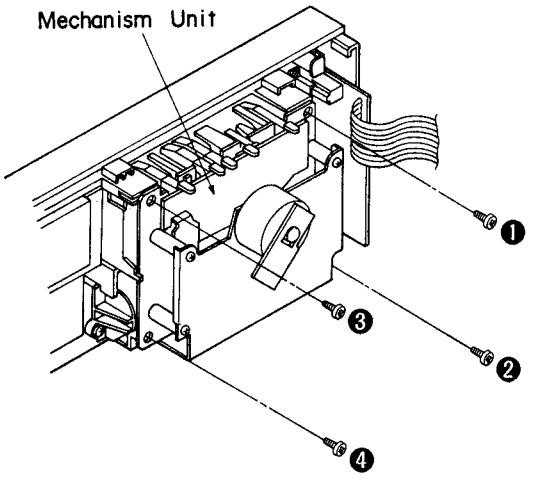


3. Remove the 2 screws (❶~❷).
4. Release the 1 claw.

Ref. No. 5	Removal of the mechanism unit
Procedure 1→3→5	



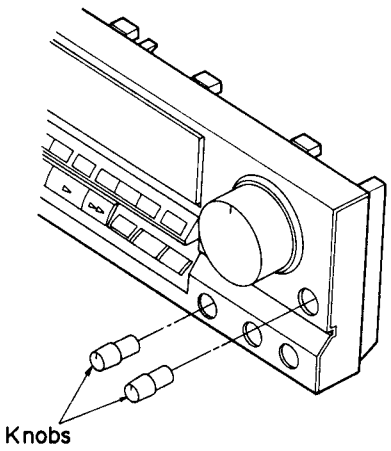
1. Push the eject button.



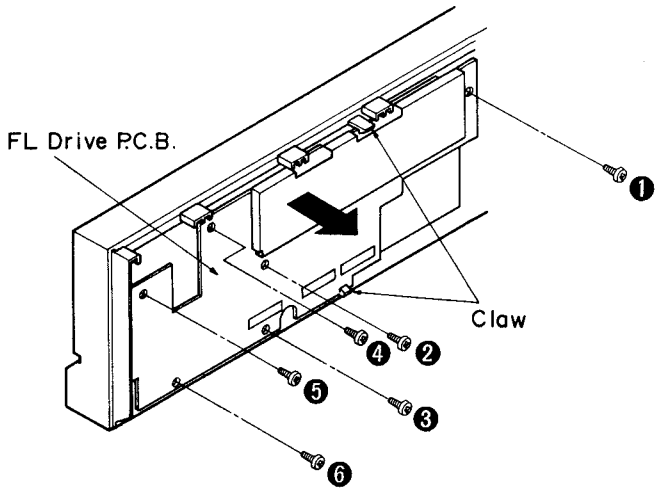
2. Remove the 4 screws (❶~❹).

Ref. No. 6 **Removal of the FL drive P.C.B.**

Procedure 1→3→6



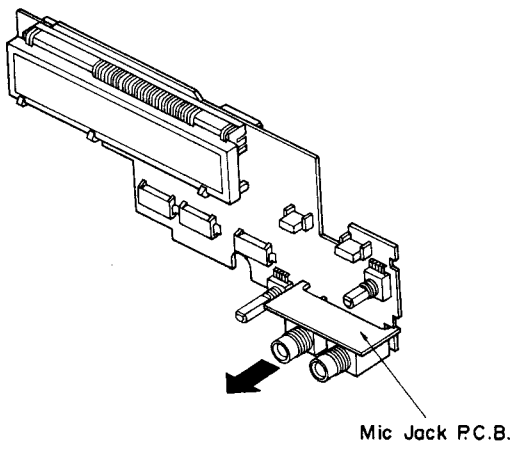
1. Pull out the 2 knobs.



2. Remove the 6 screws (❶~❻).
3. Release the 2 claws.
4. Remove the FL drive P.C.B. in the direction of the arrow.

Ref. No. 7 **Removal of the mic jack P.C.B.**

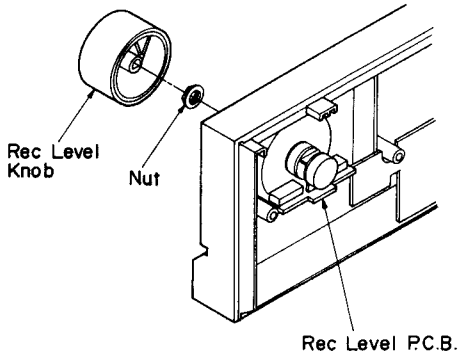
Procedure 1→3→6→7



• Remove the mic jack P.C.B. in the direction of the arrow.

Ref. No. 8 **Removal of the rec level P.C.B.**

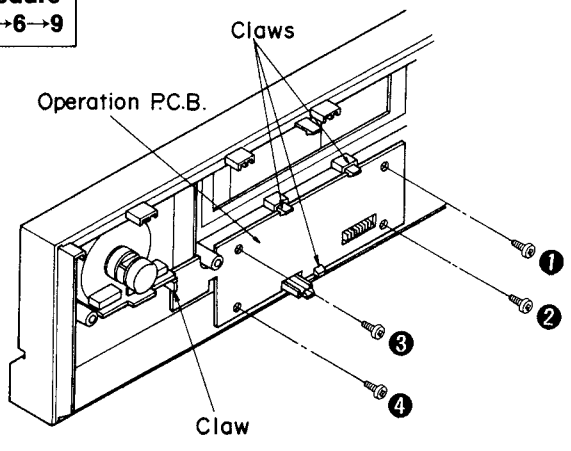
Procedure 1→3→6→8



1. Pull out the rec level knob.
2. Remove the 1 nut.

Ref. No. 9 **Removal of the operation P.C.B.**

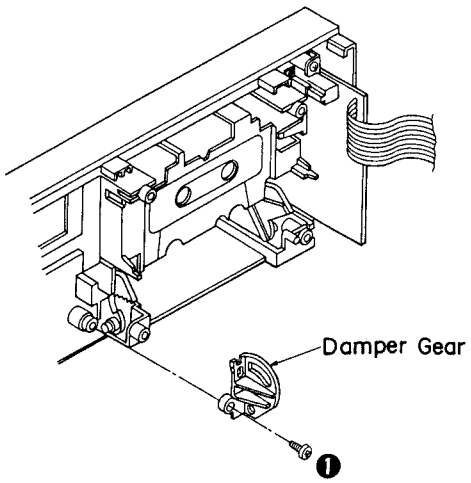
Procedure 1→3→6→9



1. Remove the 4 screws (❶~❹).
2. Release the 4 claws.

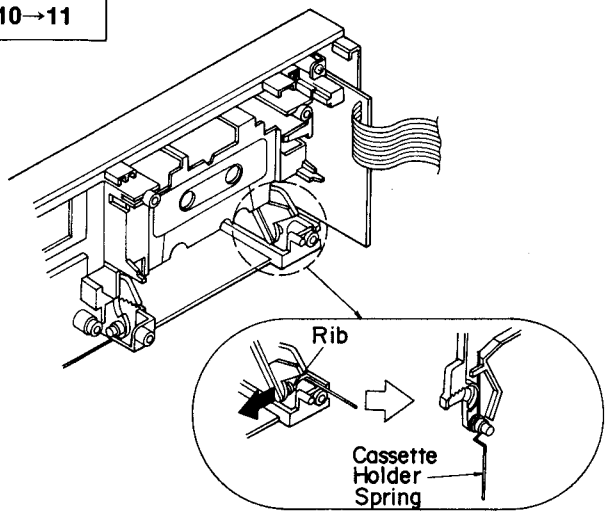
Ref. No. 10 **Removal of the damper gear**

Procedure 1→3→5→10

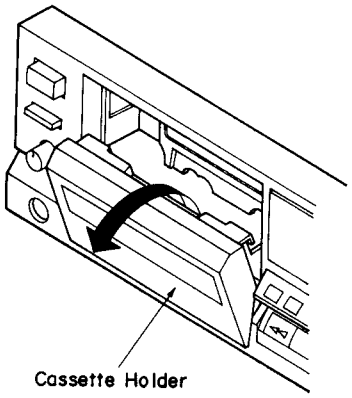


• Remove the 1 screw (❶).

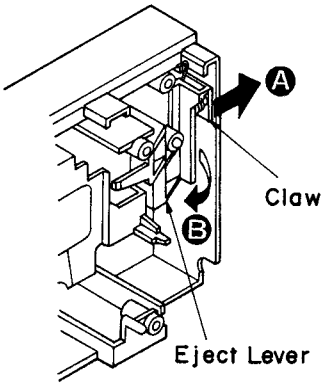
Ref. No. 11	Removal of the cassette holder
Procedure 10→11	



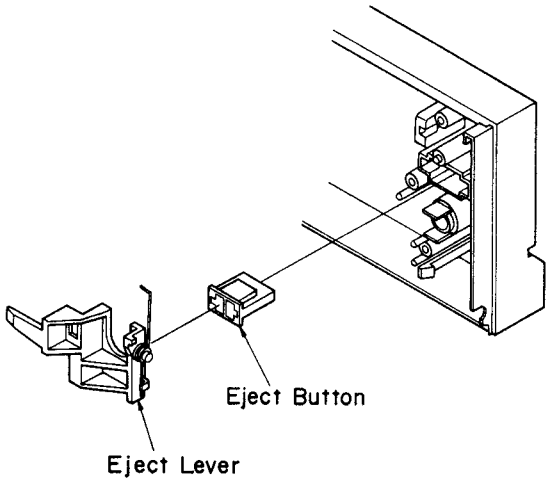
1. Remove the rib in the direction of the arrow.
2. Remove the cassette holder spring.
3. Pull out the cassette holder in the direction of the arrow.



Ref. No. 12	Removal of the eject lever and eject button
Procedure 1→3→4→5→12	



1. Push the claw in the direction of the arrow Ⓐ.
2. Remove the eject lever in the direction of the arrow Ⓑ.



3. Pull out the eject button.

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- MPX filter switch: off
- Bias-adjustment VR: Center
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5℃ (68±9°F)

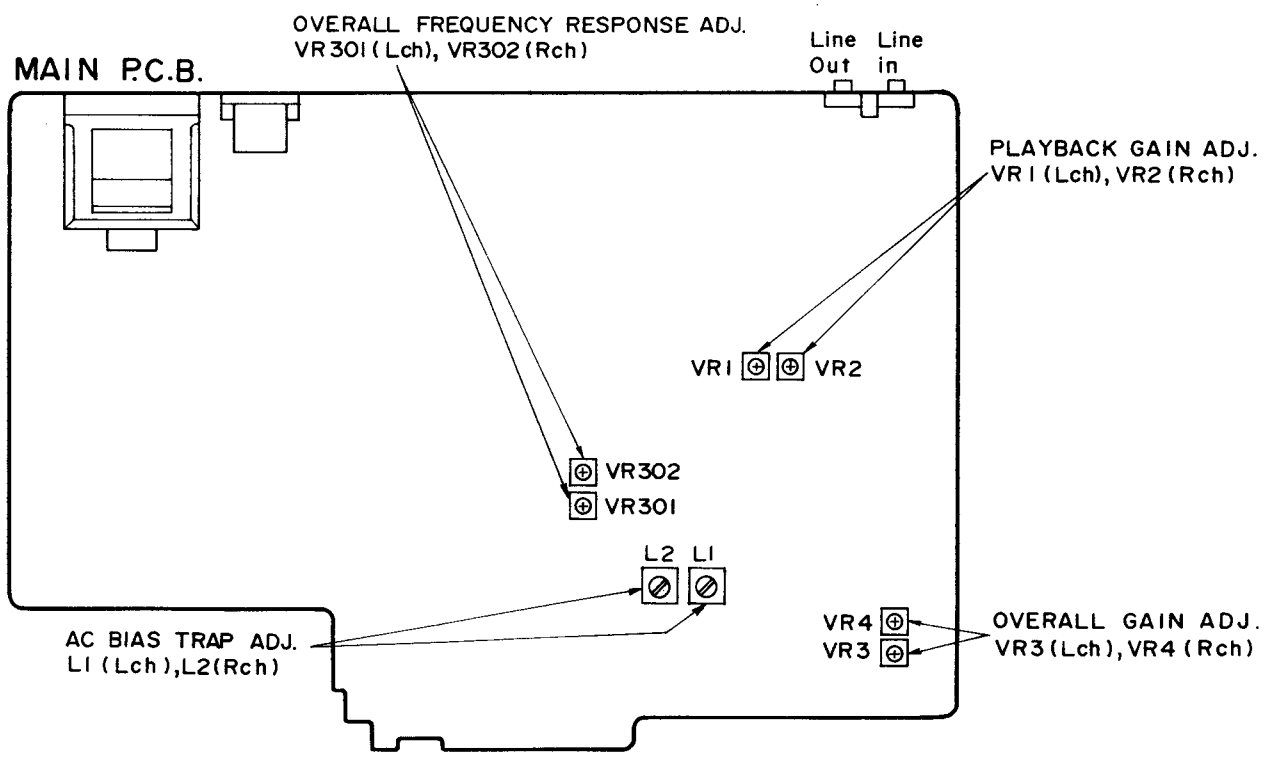
Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape ; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

• Adjustment Points



HEAD AZIMUTH ADJUSTMENT

1.Playback the azimuth adjusment portion (8 kHz, -20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2.Perform the same adjustment in the play mode.

3. **After the adjustment, apply screwlock to the azimuth adjusting screw.**

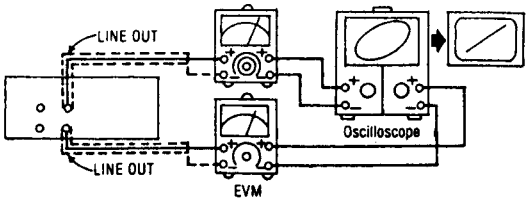


Fig. 1

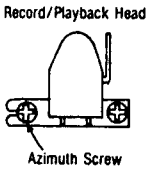


Fig. 2

PLAYBACK GAIN ADJUSTMENT

1.Playback the gain adjusted portion (315 Hz, 0 dB) of the test tape (QZZCFM).

2.Adjust **VR1** (L-CH) and **VR2** (R-CH) so that the output is within the standard value.

Standard value: 0.4V±0.5dB

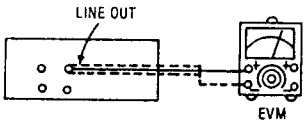


Fig. 3

PLAYBACK FREQUENCY RESPONSE

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in **Fig. 6** for both L-CH and R-CH.

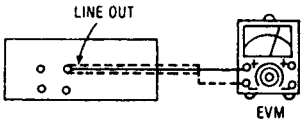


Fig. 4

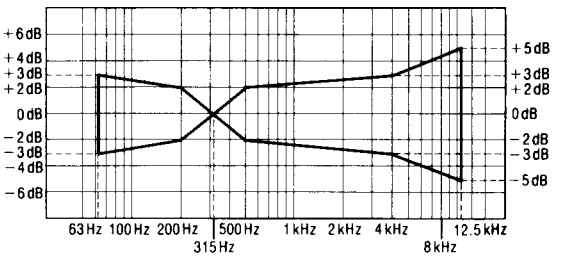
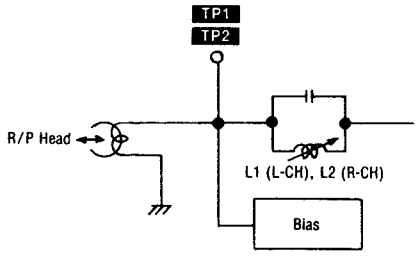


Fig. 5

AC BIAS TRAP ADJUSTMENT

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record mode.
2. Adjust **L1** (L-CH) [[**L2** (R-CH)]] so that the output voltage between **TP1** (**TP2**) and GND is less than the minimum value.



OVERALL FREQUENCY RESPONSE

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1kHz, −24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR301** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
   - Level up in high frequency range .....Increase the bias current.
   - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO_2 tape (QZZCRX) and the metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9**.

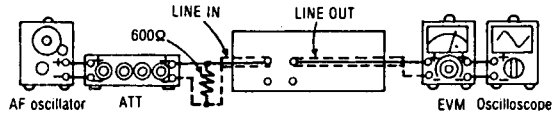


Fig. 10

Normal Overall frequency response chart (NR OUT)

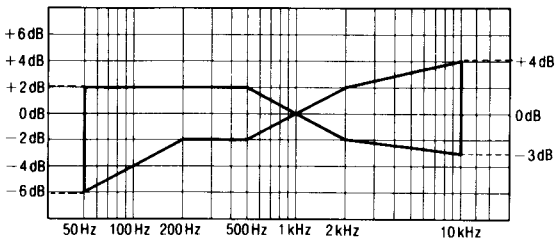


Fig. 8

CrO_2 Metal Overall frequency response chart (NR OUT)

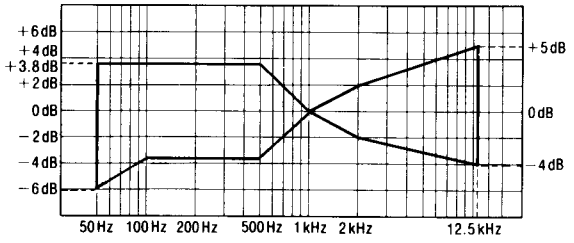


Fig. 9

OVERALL GAIN ADJUSTMENT

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1kHz, −24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR3** (L-CH) and **VR4** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4V±0.5dB

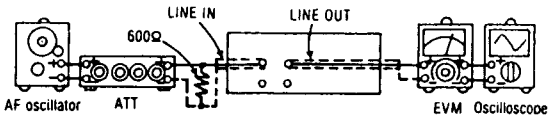


Fig. 11

■ TERMINAL FUNCTION OF IC'S

• IC901 (MB88511-224N): MICROCOMPUTER (This microcomputer is used for mechanical operation.)

Pin No.	Mark	I/O Division	Function
1	DMT	O	Line out mute signal ("H"...ON, "L"...OFF)
2	RMT	O	REC AMP mute signal ("H"...ON, "L"...OFF)
3	$\overline{BOS}$	O	BIAS OSC ON/OFF control signal ("H"...OFF, "L"...ON)
4	$\overline{REC}$	O	REC LED ON/OFF control signal ("H"...OFF, "L"...ON)
5	$\overline{PLAY}$	O	PLAY LED ON/OFF control signal ("H"...OFF, "L"...ON)
6	EJECT F	O	Power eject motor open control signal ("H"...OPEN, "L"...CLOSE/STOP)
7	EJECT R	O	Power eject motor close control singnal ("H"...CLOSE, "L"...OPEN/STOP)
8	$\overline{CAPM}$	O	Capstan motor ON/OFF control signal ("H"...OFF (POWER OFF or ABNORMAL CONDITION), "L"...ON)
9	$\overline{SOL1}$	O	Trigger solenoid ON/OFF control signal ("H"...OFF, "L"...ON)
10	$\overline{SOL2}$	O	Brake solenoid ON/OFF control signal ("H"...OFF, "L"...ON)
11	$\overline{SOL2C}$	O	Brake solenoid hold ON/OFF control signal ("H"...OFF, "L"...ON (FF/REW/MS)
12	RP (REEL PULSE)	I	Reel pulse signal
13	RMR	O	Reel motor reverse control signal ("H"...REW, "L"...STOP/PLAY/FF)
14	RMF	O	Reel motor foward control signal ("H"...FF/PLAY, "L"...STOP/REW)
15	$\overline{OSC}$	I	Single capstan/Dual capstan select signal ("H"...DUAL CAPSTAN, "L"...SINGLE CAPSTAN)
		O	Calibration OSC circuit ON/OFF control signal ("H"...OFF, "L"...ON)
16	Ex	I	Clock OSC terminal (6MHz)
17	X	O	
18	$\overline{RES}$	I	Reset signal ("L"...RESET)
19	OSCF	O	Calibration OSC circuit (400Hz/10kHz) select signal ("H"...HIGH FREQ. (10kHz), "L"...LOW FREQ. (400Hz)
20	$\overline{POF}$	I	AC POWER detect signal
21	Vss	—	GND

Pin No.	Mark	I/O Division	Function
22	$\overline{DIRECT}$	I	CD direct operation det. signal
		O	CD direct/LINE input select control signal ("H"...CD DIRECT, "L"...LINE INPUT)
23	$\overline{C}$	O	Dolby NR mode select signal
24	$\overline{B}$		

		NR OFF	Dolby B	Dolby C	dbx
$\overline{C}$		H	H	L	L
$\overline{B}$		H	L	H	L

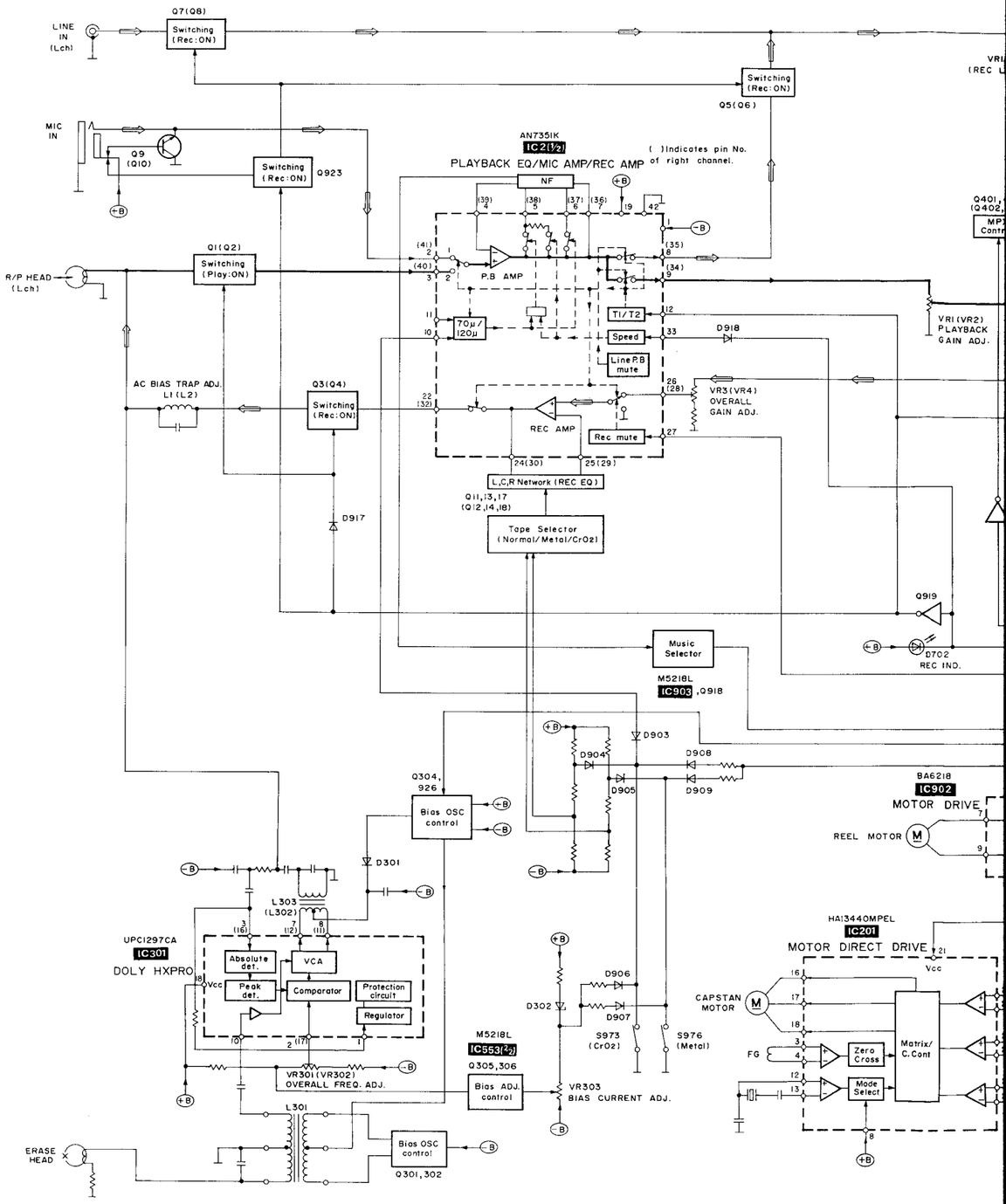
25	MPX	O	MPX coil ON/OFF control signal ("H"...MPX OFF, "L"...MPX ON)
26	T/$\overline{S}$	I	Two head/Three head select signal ("H"...THREE HEAD, "L"...TWO HEAD)
		O	Tape/Source monitor select control ("H"...TAPE MONITOR, "L"...SOURCE MONITOR)
27	$\overline{HALF}$	I	Cassette half det. SW terminal ("L"...ON)
28	$\overline{MODE}$	I	Mechanism mode SW terminal
29	$\overline{ARM}$	I	Auto Rec Mute key signal ("L"...PUSH)
30	AVss	—	Connected to GND
31	AV$\overline{R}$	—	Connected to GND
32	AVcc	—	Power supply terminal
33	KEY 1	I	Key SW input (STOP/FF REW/PLAY/REC/PAUSE/ dbx/C/B/MPX/TIMER REC/TIMER PLAY)
34	KEY 2	I	Key SW input (MEMORY REPEAT/MEMORY STOP/EJECT/MONITOR/CD DIRECT/ OSC/TEST/REMOTE A/B)
35	ATS	I	Auto Tape Select SW input (ATSC/ATSM/EJECT OPEN LEAF SW)
36	INH	I	REC INH SW input (REC INH/EJECT MOTOR LEAF SW)
37	B555	I	Connected to GND
38	DISP	O	Serial data signal of FL display (ACTIVE: "H")
39	MSP	I	Music select det. signal ("H"...NO SIGNAL, "L"...ON SIGNAL)
40	$\overline{MEMORY}$ $\overline{PULSE}$	I	Memory Pulse signal
41	$\overline{REMOCON}$	I	Remote control serial data ("L" for 50ms. with counter "0000")
42	Vcc	—	Power supply terminal

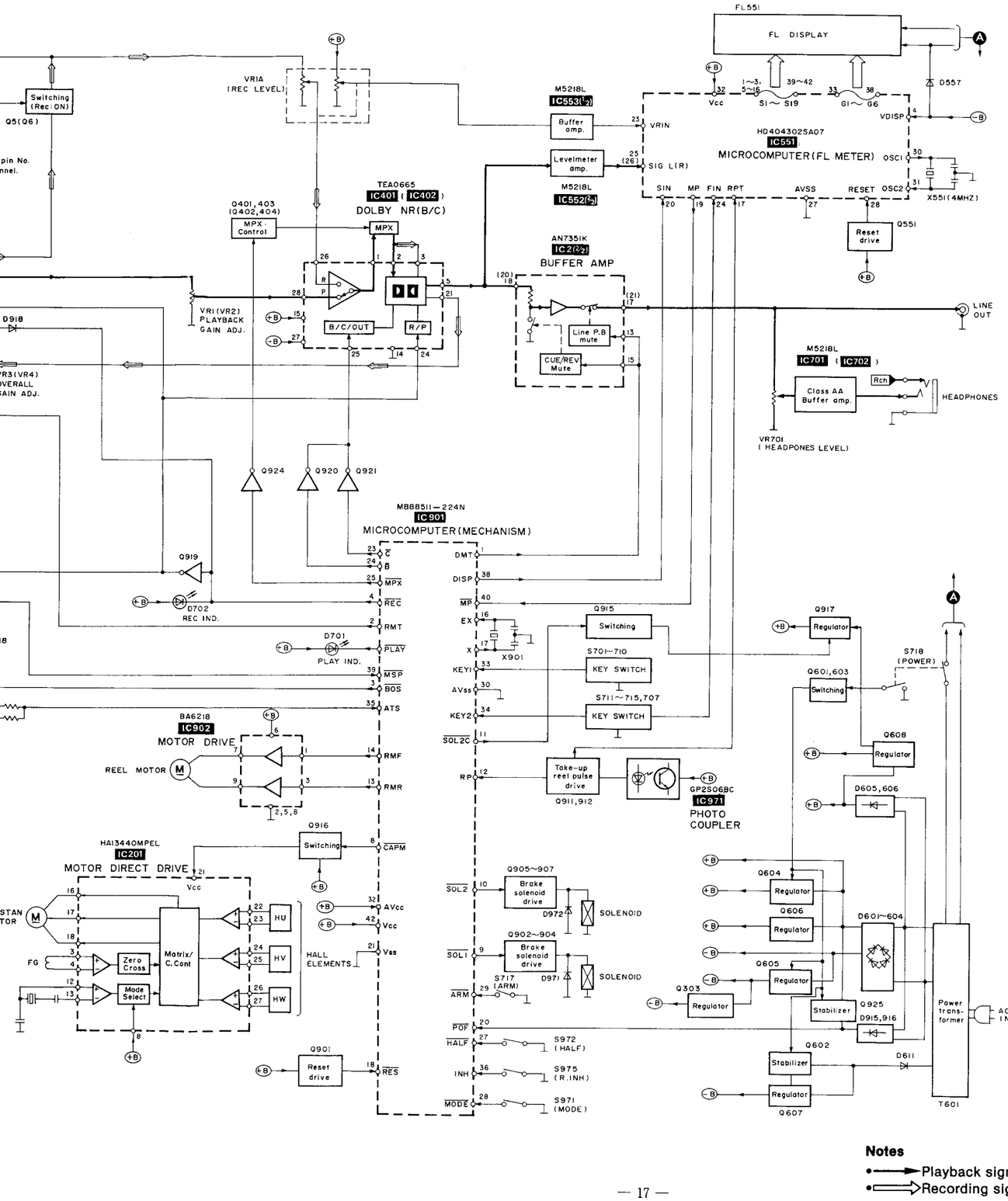
• IC551 (HD404302SA07): MICROCOMPUTER (This microcomputer is used for FL meter operation.)

Pin No.	Mark	I/O Division	Function
1	S5	O	Segment signal for FL display
2	S6	O	
3	S7	O	
4	Vdisp	—	Pull down power supply terminal (−Vcc)
5	S8	O	Segment signal for FL display
6	S9	O	
7	S10	O	
8	S11	O	
9	S12	O	
10	S13	O	
11	S14	O	
12	S15	O	
13	S16	O	
14	S17	O	
15	S18	O	
16	S19	O	
17	RPT	I	Reel pulse signal of tape up reel
18	RPS	I	Reel pulse signal of supply reel
19	MP	O	Memory pulse signal ("L" for 50ms. with counter "0000")
20	DISP	I	Serial data signal (ACTIVE: "H")
21	GND	—	GND terminal

Pin No.	Mark	I/O Division	Function
22	AVcc	—	Power supply terminal
23	VR IN	I	Rec level control (VR MAX...+5V)
24	F IN	I	Function key terminal (COUNTER RESET/COUNTER MODE/APRS)
25	SIG L	I	LCH level signal
26	SIG R	I	RCH level signal
27	AVss	—	Connected to GND
28	RESET	I	Reset terminal (with Reset: "H")
29	$\overline{TEST}$	I	Test terminal
30	OSC 1	O	Clock OSC terminal (4MHz)
31	OSC 2	I	
32	Vcc	I	Power supply terminal
33	G1	O	Grid signal for FL display
34	G2	O	
35	G3	O	
36	G4	O	
37	G5	O	
38	G6	O	
39	S1	O	Segment signal for FL display
40	S2	O	
41	S3	O	
42	S4	O	

■ BLOCK DIAGRAM



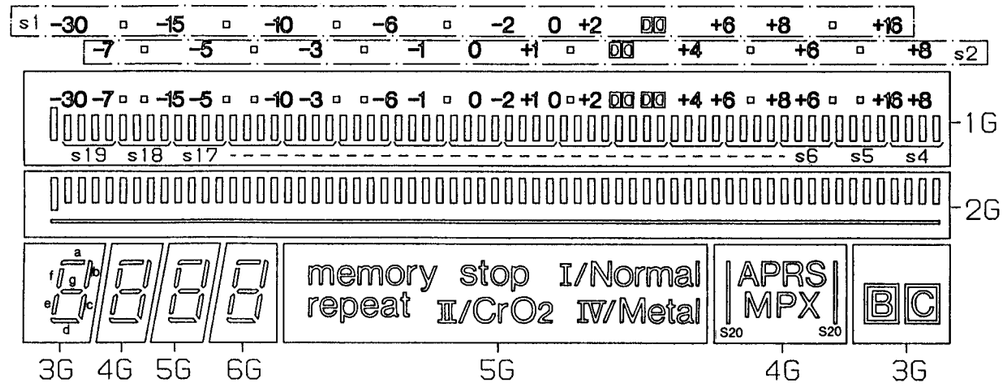


Notes

- Playback signal
- Recording signal

■ INTERNAL CONNECTION OF FL

• Grid connection diagram



• Anode connection table

	1G	2G	3G	4G	5G	6G
S1	S1	-	-	APRS	-	-
S2	S2	-	-	-	-	-
S3	-	-	-	-	-	-
S4	▮▮▮▮	▮▮▮▮	-	-	-	-
S5	▮▮▮▮	▮▮▮▮	-	-	-	-
S6	▮▮▮▮	▮▮▮▮	-	-	memory	-
S7	▮▮▮▮	▮▮▮▮	-	-	repeat	-
S8	▮▮▮▮	▮▮▮▮	-	-	stop	-
S9	▮▮▮▮	▮▮▮▮	B	-	-	-
S10	▮▮▮▮	▮▮▮▮	C	-	I /Normal	-
S11	▮▮▮▮	▮▮▮▮	-	MPX	II /CrO_2	-
S12	▮▮▮▮	▮▮▮▮	-	-	IV /Metal	-
S13	▮▮▮▮	▮▮▮▮	a	a	a	a
S14	▮▮▮▮	▮▮▮▮	b	b	b	b
S15	▮▮▮▮	▮▮▮▮	f	f	f	f
S16	▮▮▮▮	▮▮▮▮	g	g	g	g
S17	▮▮▮▮	▮▮▮▮	c	c	c	c
S18	▮▮▮▮	▮▮▮▮	e	e	e	e
S19	▮▮▮▮	▮▮▮▮	d	d	d	d
S20 (dB)	▮	▮	-	▮ ▮	-	-

• Pin connection

PIN NO.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	NP	S19	S18	S17	S16	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6	S5	S4	NC	S2	S1	NC	6G	5G	4G	3G	2G	1G	S20	NP	NP	F1	F1

■ SCHEMATIC DIAGRAM

(Parts list on pages 34, 35, 42～44.)

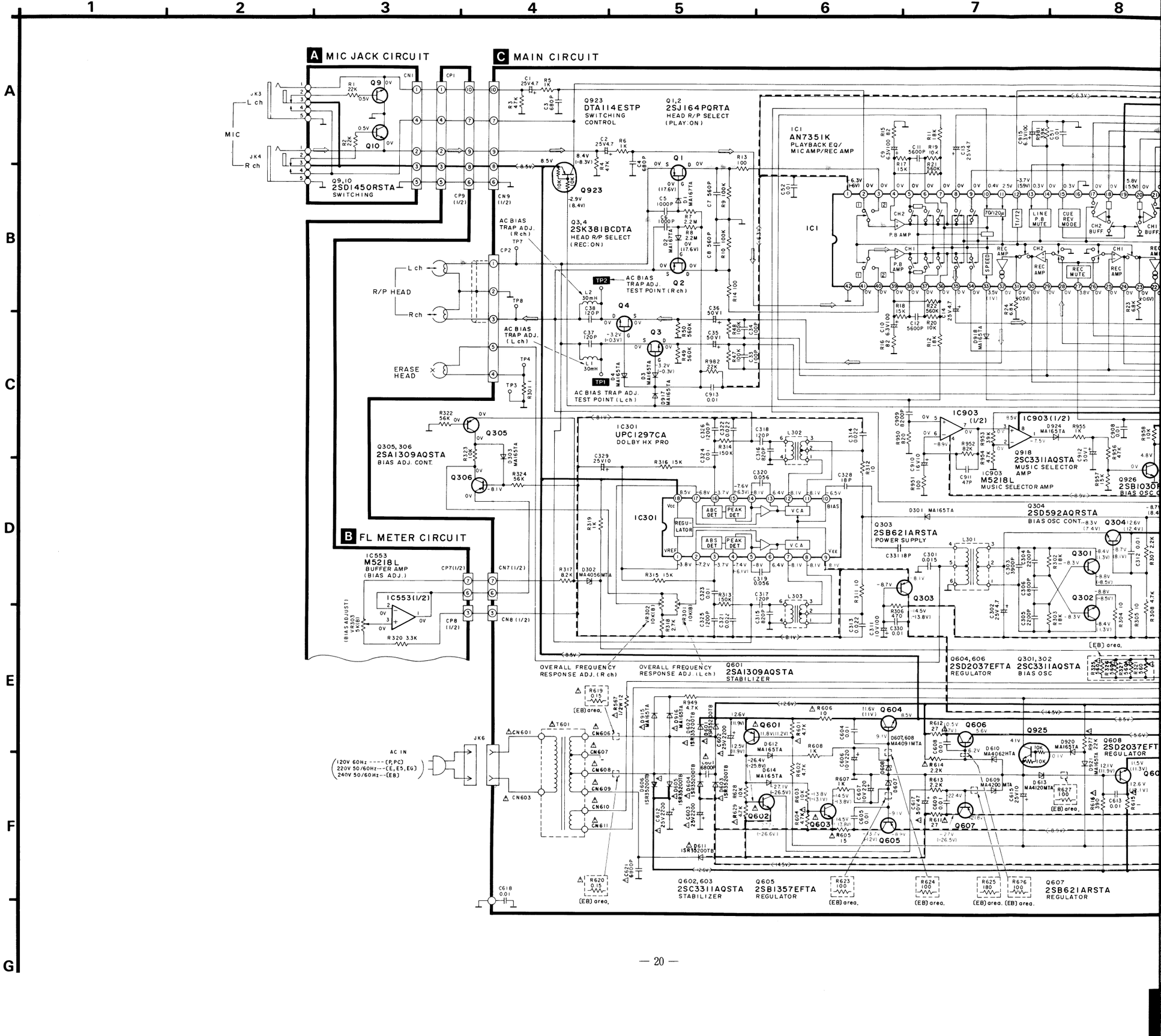
(This schematic diagram may be modified at any time with development of new technology.)

Notes:

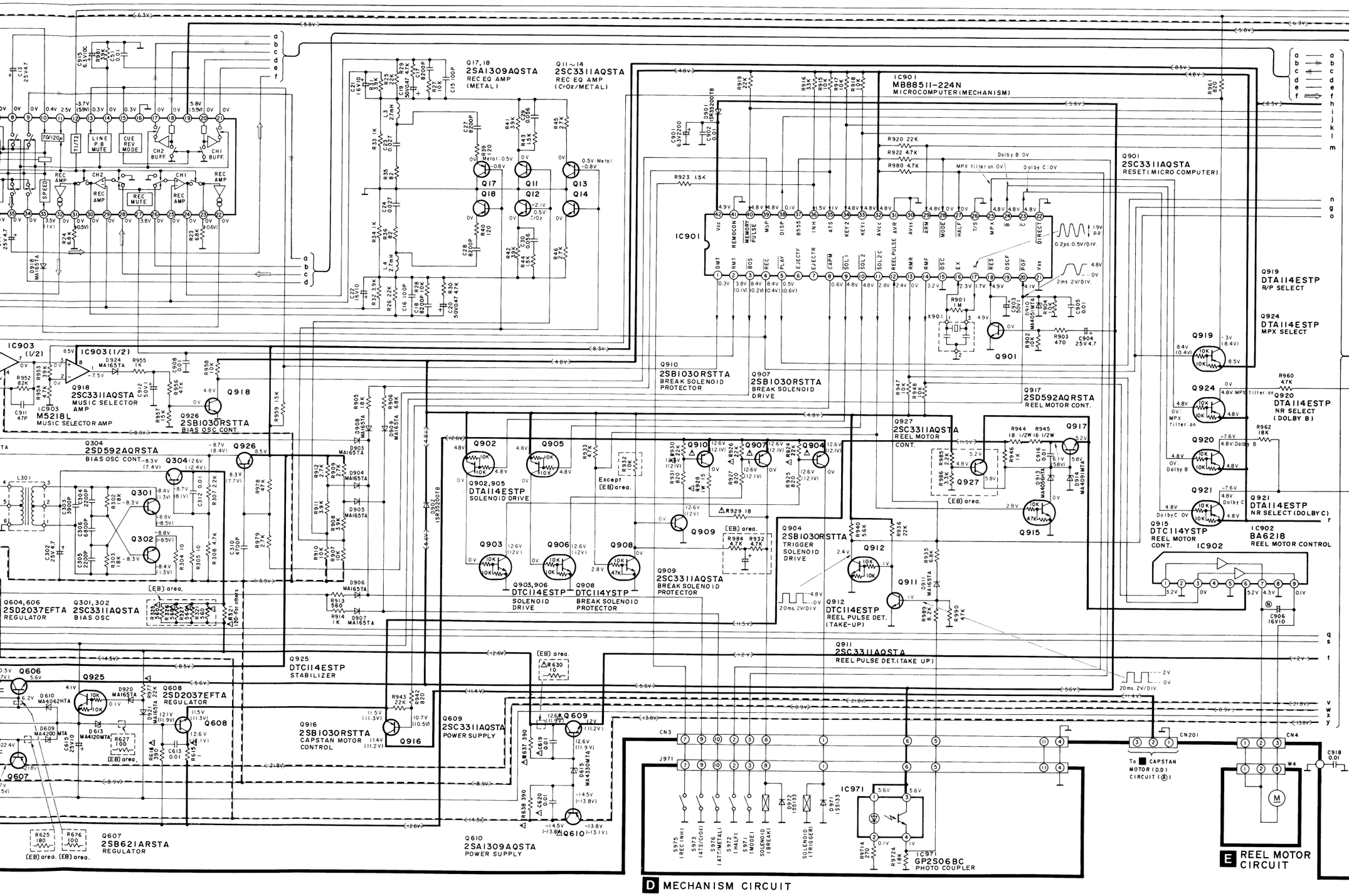
- S701 : Stop switch (stop) in "**off**" position.
- S702 : F.F. switch (ff) in "**off**" position.
- S703 : Rew switch (rew) in "**off**" position.
- S704 : Playback switch (Play) in "**off**" position.
- S705 : Record switch (rec) in "**off**" position.
- S706 : Pause switch (pause) in "**off**" position.
- S707 : Dolby noise-reduction switch (Dolby NRC) in "**off**" position.
- S708 : Dolby noise-reduction switch (Dolby NR B) in "**off**" position.
- S709 : Multiplex filter switch (MPX filter) in "**off**" position.
- S710 : Timer switch (timer) in "**off**" position.
- S711 : Counter reset switch (counter reset) in "**off**" position.
- S713 : Meter range switch (meter range) in "**off**" position.
- S714 : Memory mode switch (memory repeat) in "**off**" position.
- S715 : Memory mode switch (memory stop) in "**off**" position.
- S716 : APRS switch (APRS) in "**off**" position.
- S717 : Automatic-record-muting switch (auto rec mute) in "**off**" position.
- S718 : Power switch (standby ⏻ /on) in "**on**" position.
- S971 : Mode switch in "**off**" position.
- S972 : Cassette half detection switch in "**off**" position.
- S973 : ATS (CrO_2) switch in "**off**" position.
- S975 : Rec Inhibit switch in "**off**" position.
- S976 : ATS (Metal) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( ) .....Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (▬▬< +B>▬▬) indicates +B (bias).
- (■■■< −B>■■■) indicates −B (bias).
- (▒▒▒▒) indicates the flow of the playback signal.
- (⟹) indicates the flow of the record signal.

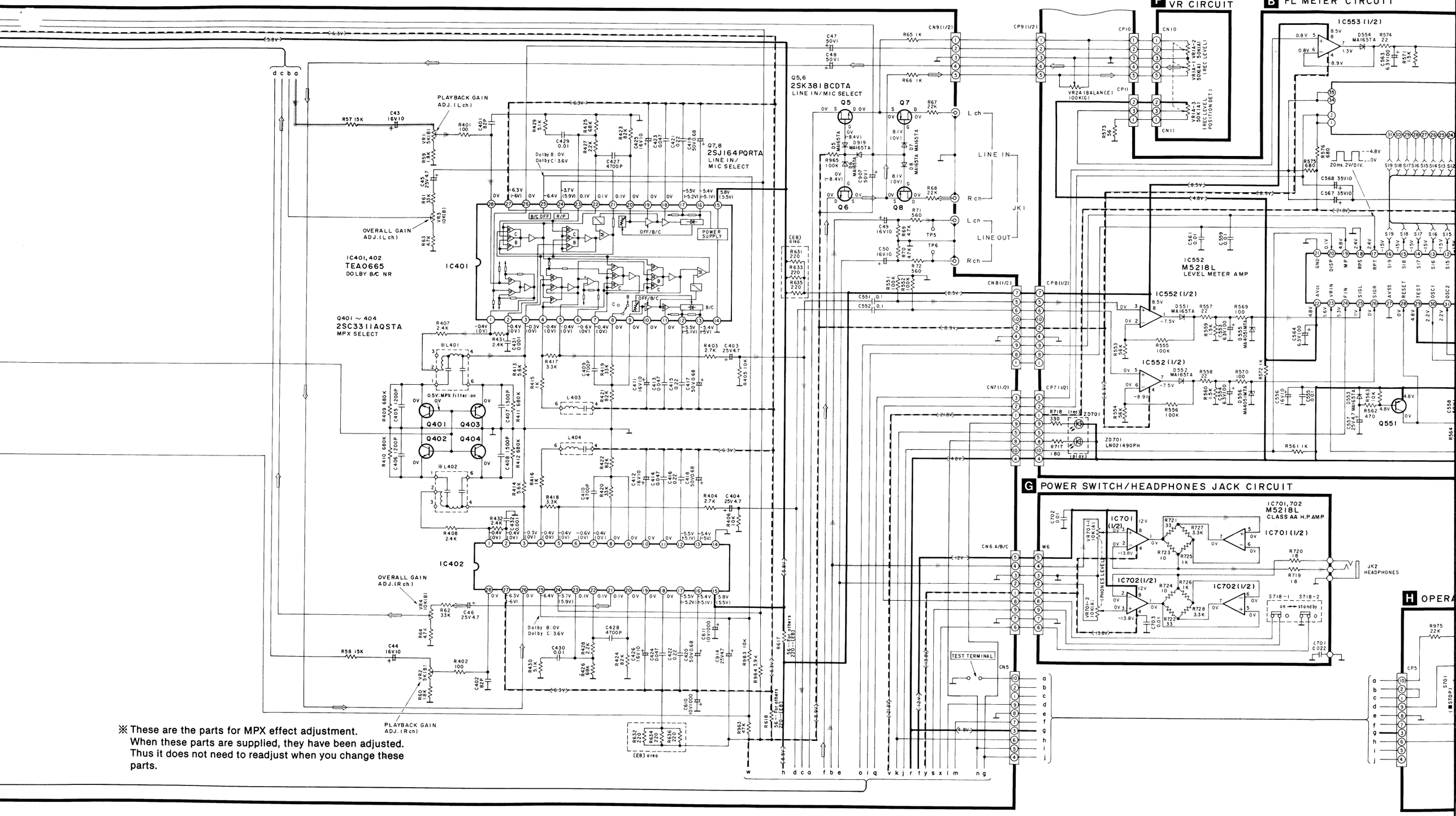
∗ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
∗ Cover the parts boxes made of plastics with aluminum foil.
∗ Ground the soldering iron.
∗ Put a conductive mat on the work table.
∗ Do not touch the legs of IC or LSI with the fingers directly.

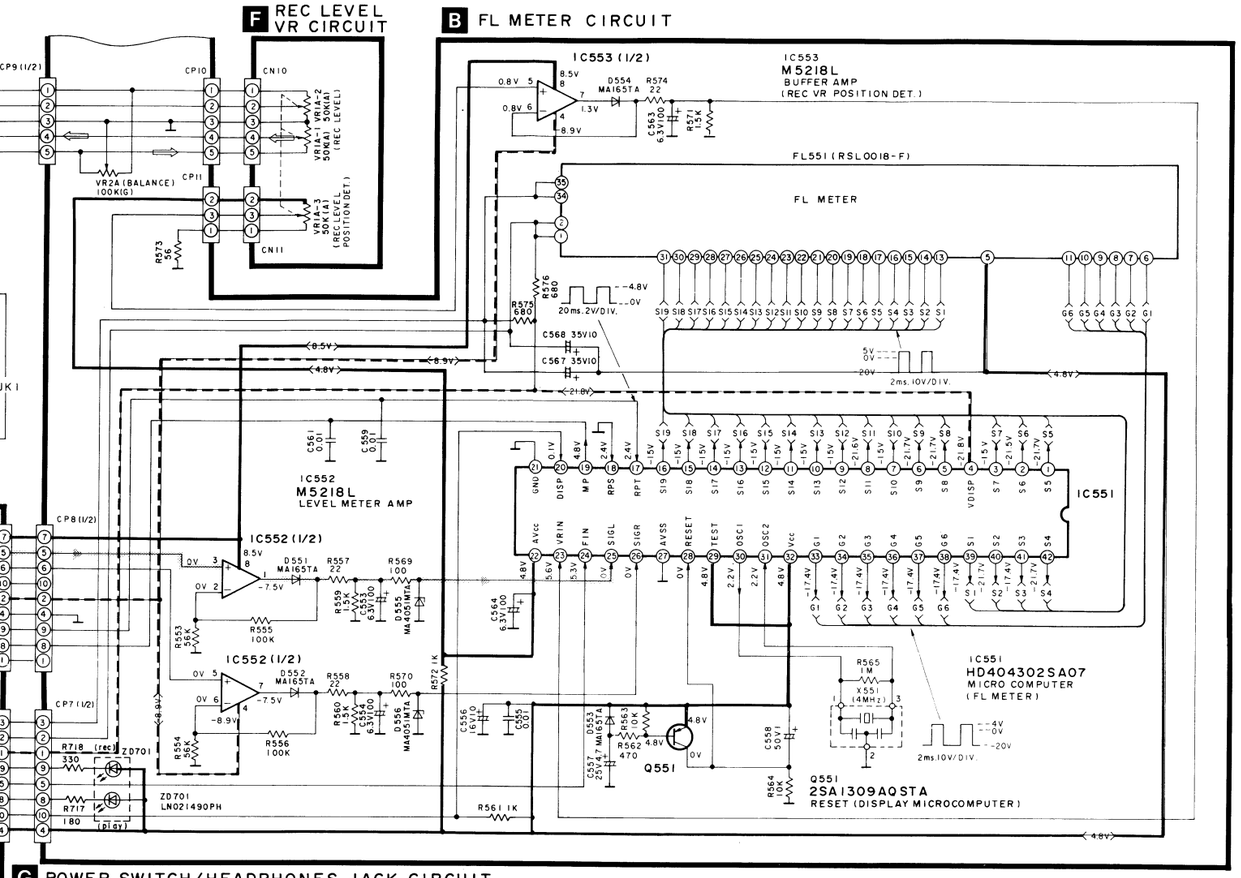


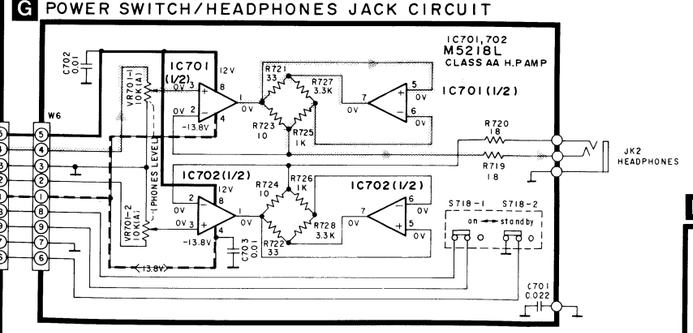
7 8 9 10 11 12 13 14 15 16 17

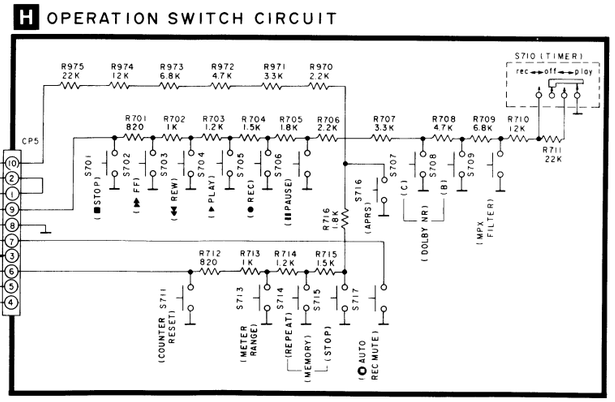


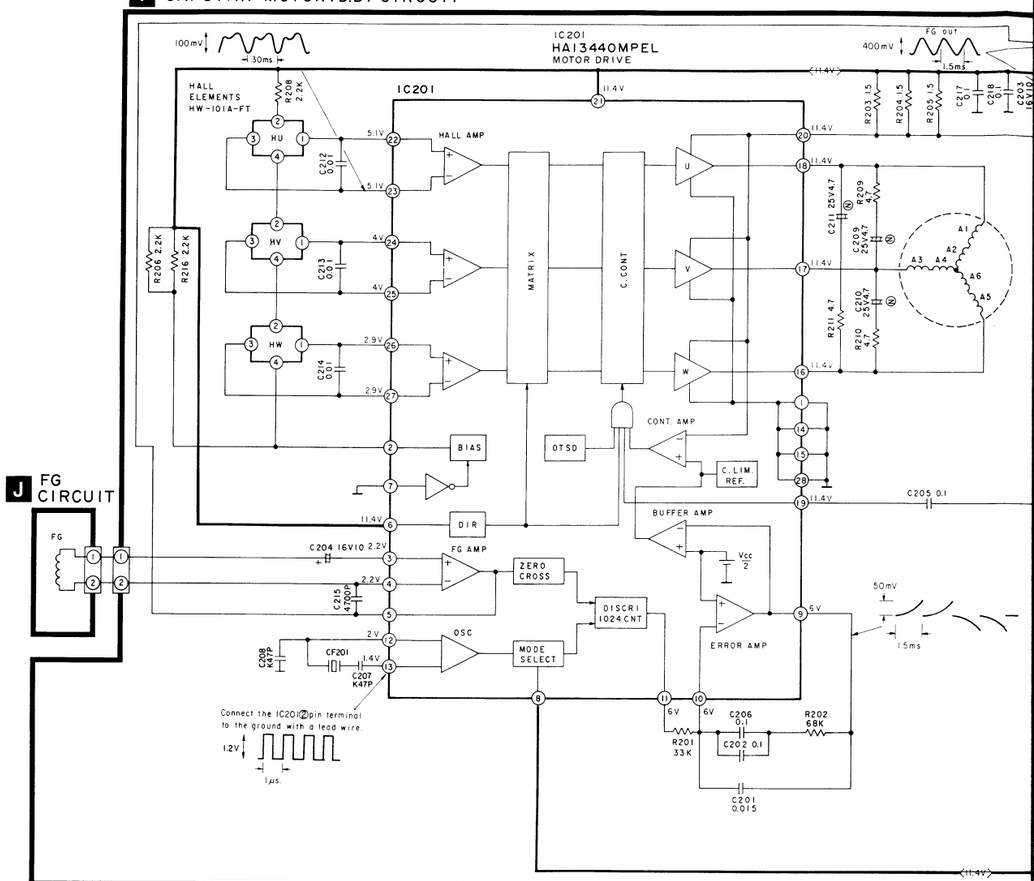


※ These are the parts for MPX effect adjustment. When these parts are supplied, they have been adjusted. Thus it does not need to readjust when you change these parts.







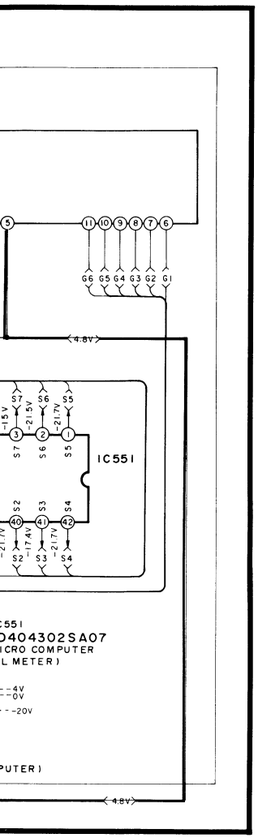


■ TROUBLESHOOTING OF DIRECT DRIVE MO

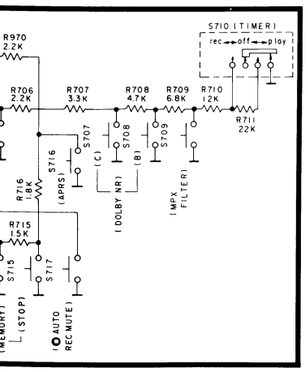
Problem	Possible Cause	
1. The motor does not rotate.	1. No power supply (+12V) 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate.	•C •C *C
2. The motor does not rotate properly. (When pressed, it stops at certain angles. Sometimes it does not rotate even if power is ON.)	1. The coil is broken or not properly soldered. 2. Output of the Hall element is not proper.	*C •C
3. The motor is out of control.	1. The FG coil is broken.	•C •C
4. Abnormal wow	1. Same as those described for problem 2.	

Note: Check the points marked with an asterisk (*) by removing the DD motor con
pin ② to GND with a lead wire. (After the DD motor control P.C.B. is removed
the coil, heating the IC.)

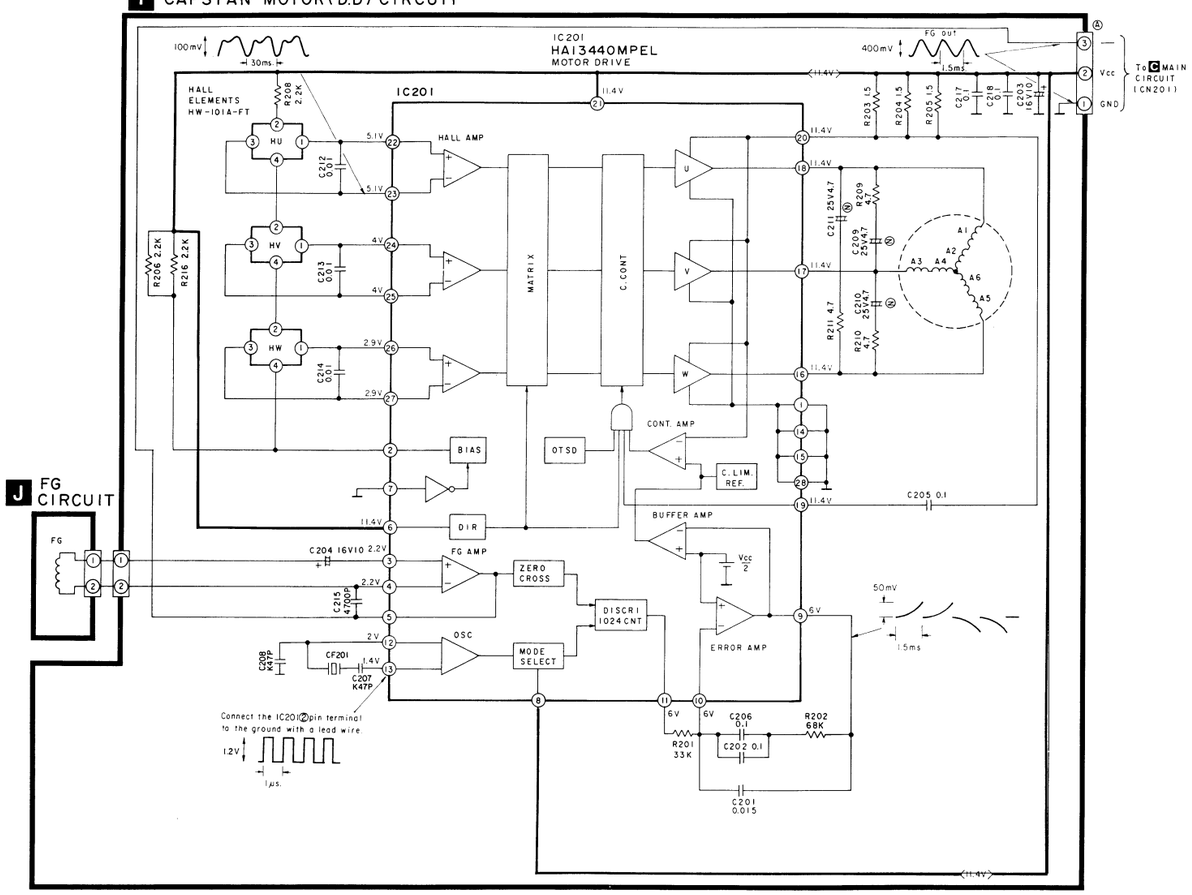
29 30 31 32 33 34 35



UIT



I CAPSTAN MOTOR(D.D) CIRCUIT



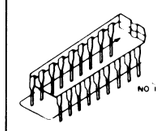
J FG CIRCUIT

■ TROUBLESHOOTING OF DIRECT DRIVE MOTOR

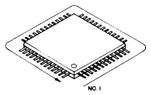
Problem	Possible Cause	Check Points
1. The motor does not rotate.	1. No power supply (+12V) 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate.	• Check the voltage applied to the connector. • Check the DC potential on IC pins ㉒~㉗. *Check the waveform of IC pin ⑬.
2. The motor does not rotate properly. (When pressed, it stops at certain angles. Sometimes it does not rotate even if power is ON.)	1. The coil is broken or not properly soldered. 2. Output of the Hall element is not proper.	*Check the conductance of the coil. If normal, the resistances between IC pins ⑯~⑰, ⑰~⑱, ⑯~⑱ will reach 20 ohms. • Check the waveform of IC pins ㉒~㉗.
3. The motor is out of control.	1. The FG coil is broken.	• Check the waveform of IC pin ⑤. • Check if the FG coil is broken.
4. Abnormal wow	1. Same as those described for problem 2.	

Note: Check the points marked with an asterisk (*) by removing the DD motor control P.C.B. and then connecting IC pin ② to GND with a lead wire. (After the DD motor control P.C.B. is removed, current will start flowing through the coil, heating the IC.)

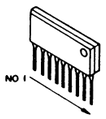
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES



UPC1297CA	18 Pin
TEA0665	28 Pin
AN7351K	42 Pin
HD404302SA07	42 Pin
MB88511-224N	42 Pin

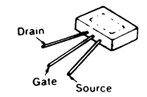


HA13440MPEL	30 Pin

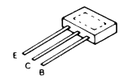


M5218L	8 Pin
BA6218	9 Pin

2SJ164PQRTA

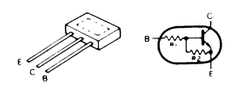


2SB621ARSTA
2SD592A

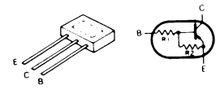


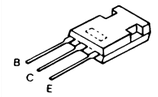
2SA1309AQSTA
2SC3311AQSTA
2SD1450RSTTA
2SB1030RSTTA

DTC114YSTP
DTC114ESTP

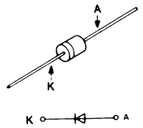


DTA114ESTP

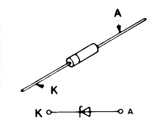




2SB1357DEFTA
2SD2037EFTA

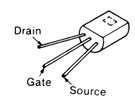


MA167TA
MA165TA
1SR35200TB
1SS133



MA4200M
MA4047MTA
MA4091MTA
MA4062HTA
MA4120M
MA4330MTA
MA4056H
MA4051MTA
MA4056MTA

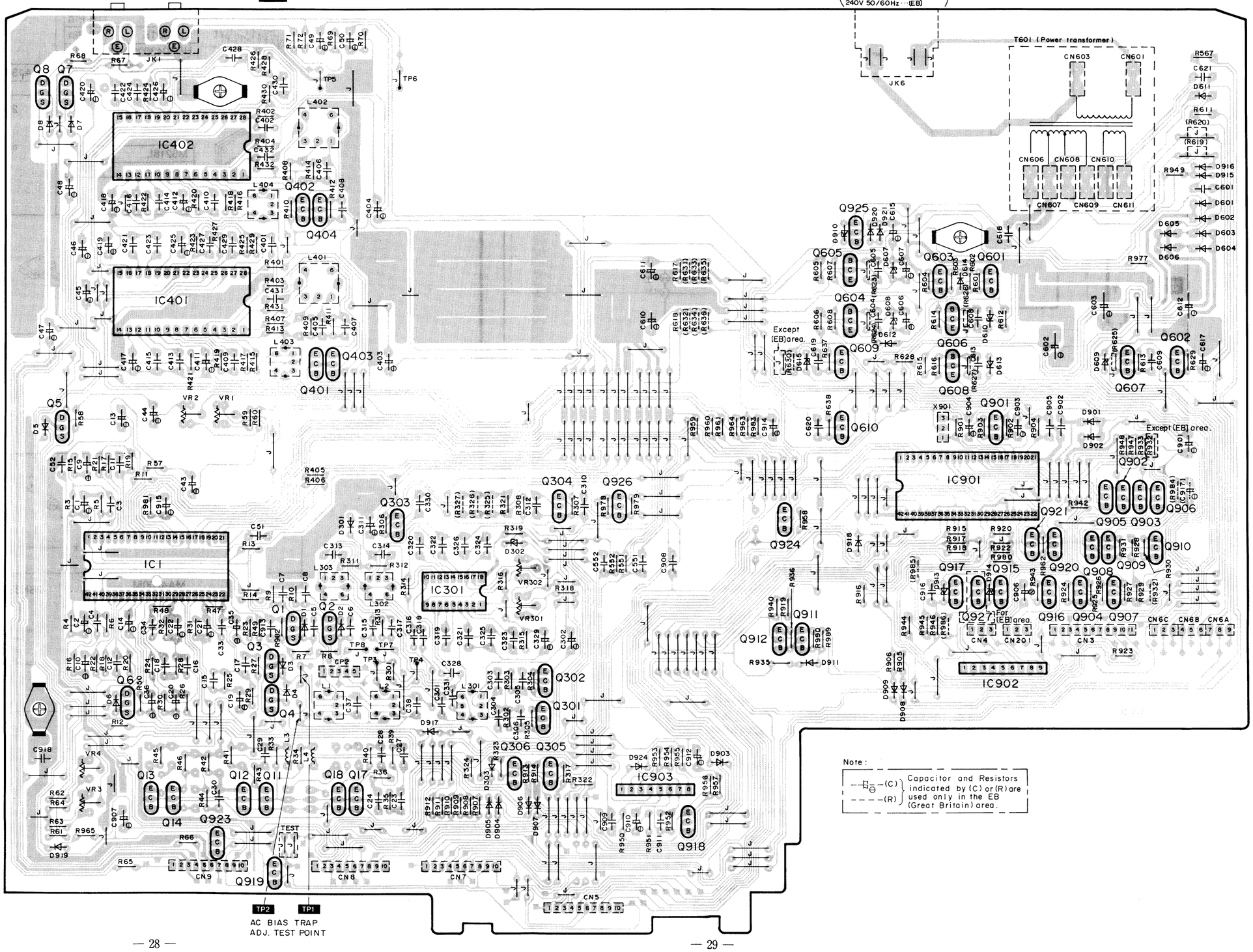
2SK381BCDTA



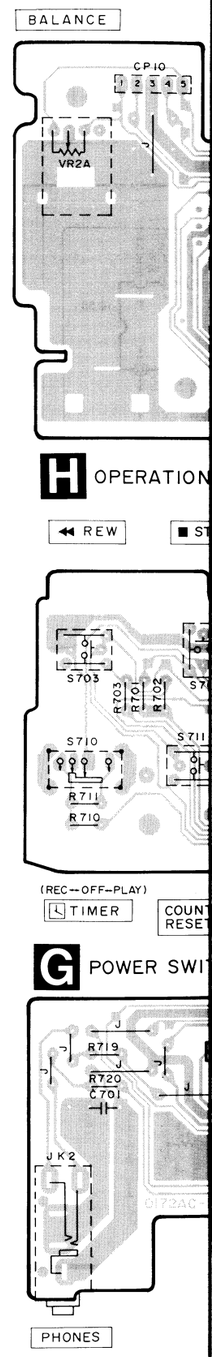
RS-B555 RS-B555

■ PRINTED CIRCUIT BOARDS

C MAIN P.C.B.

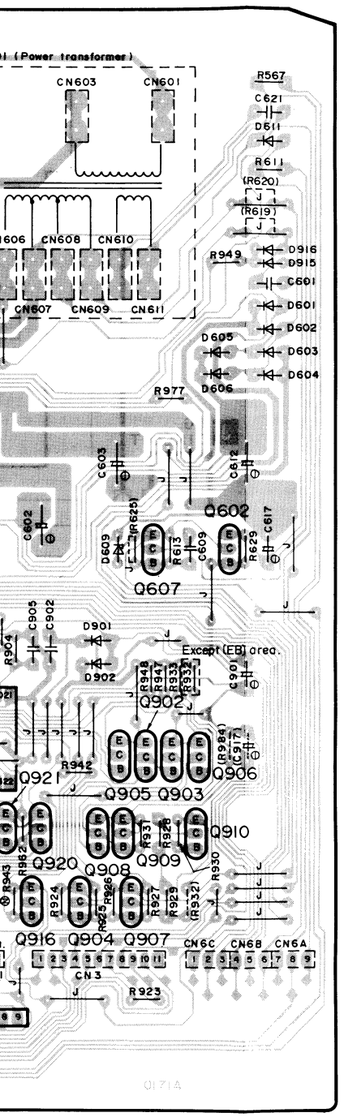


H OPERATION

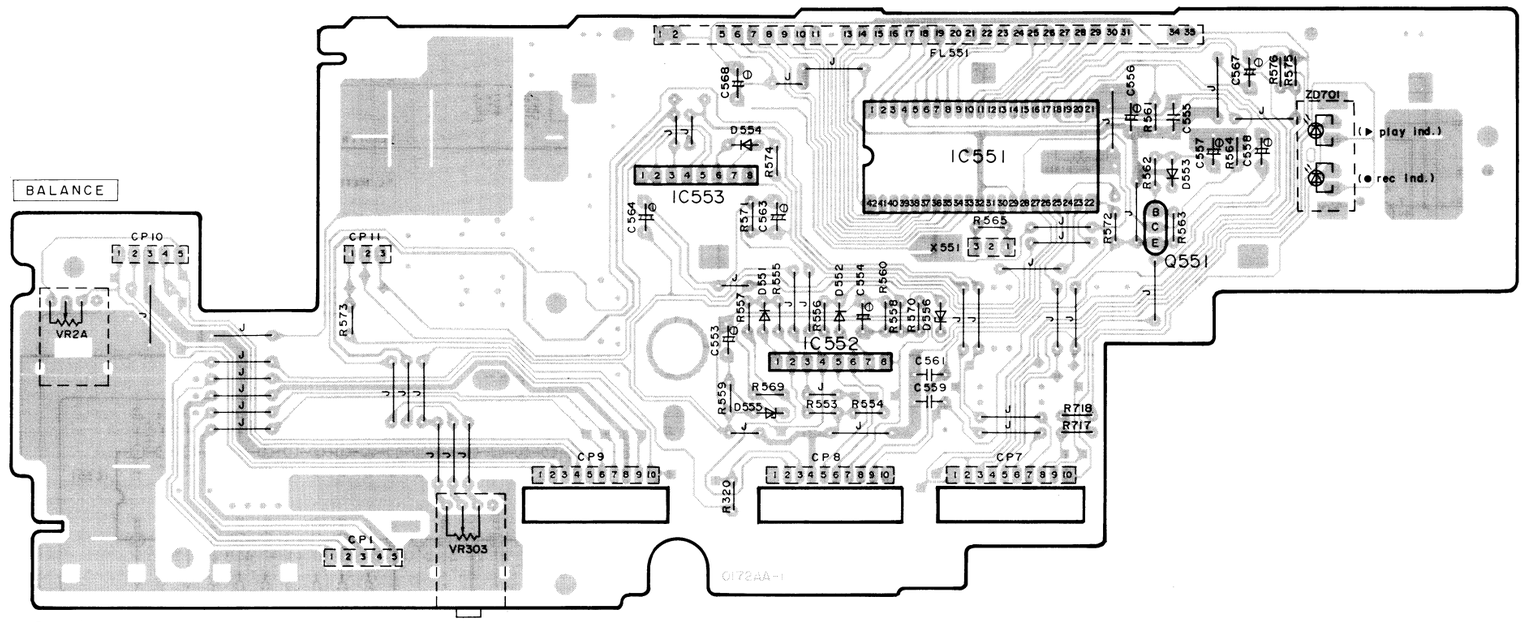


G POWER SWIT

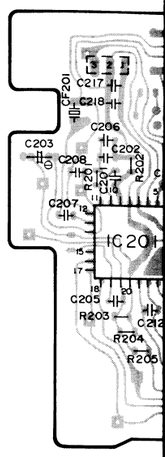
8 9 10 11 12 13 14 15 16 17



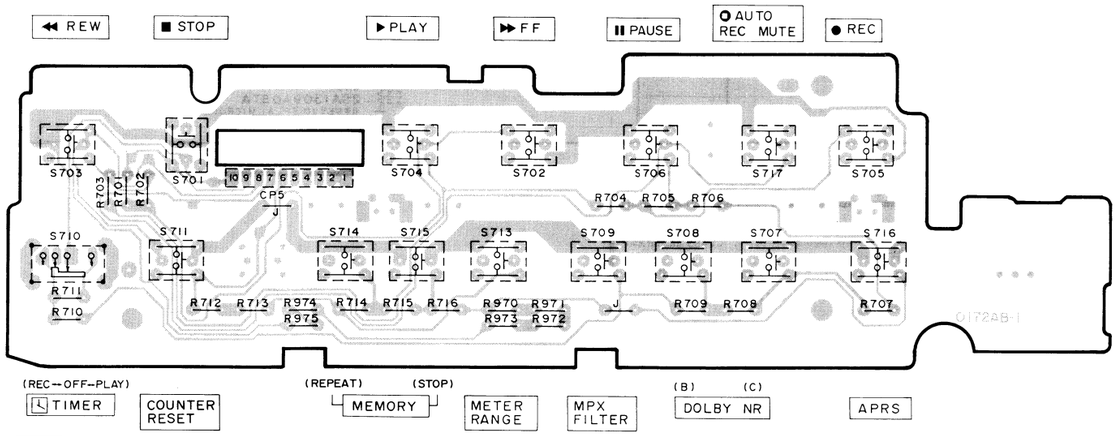
B FL METER P.C.B.



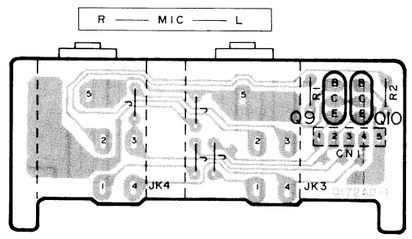
I CAPSTAN



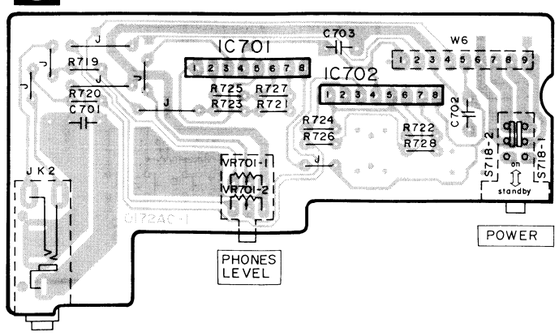
H OPERATION SWITCH P.C.B.



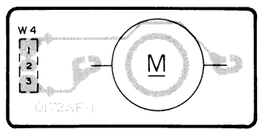
A MIC JACK P.C.B.



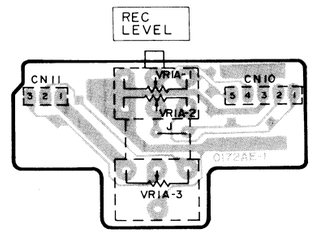
G POWER SWITCH/HEADPHONES JACK P.C.B.



E REEL MOTOR P.C.B.



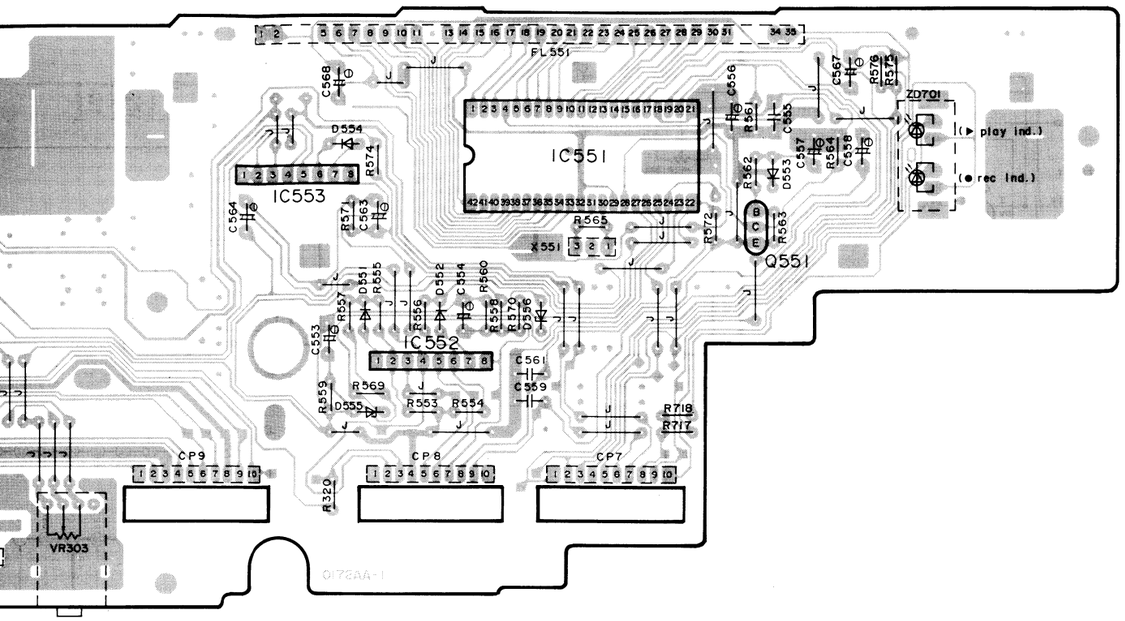
F REC LEVEL VR P.C.B.



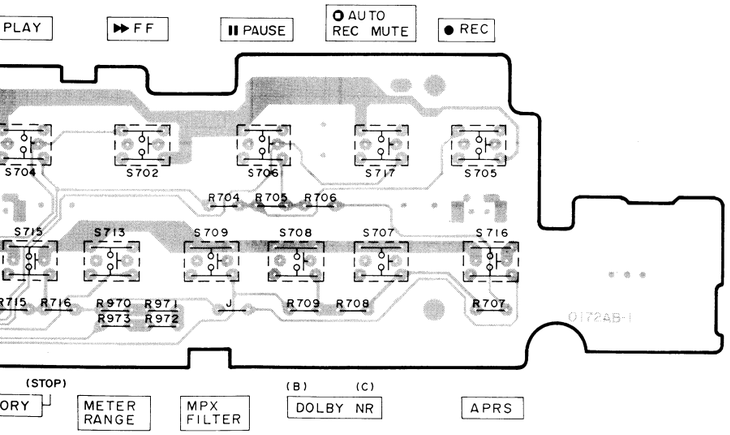
D

12 13 14 15 16 17 18 19 20 21

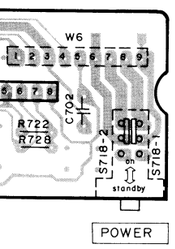
METER P.C.B.



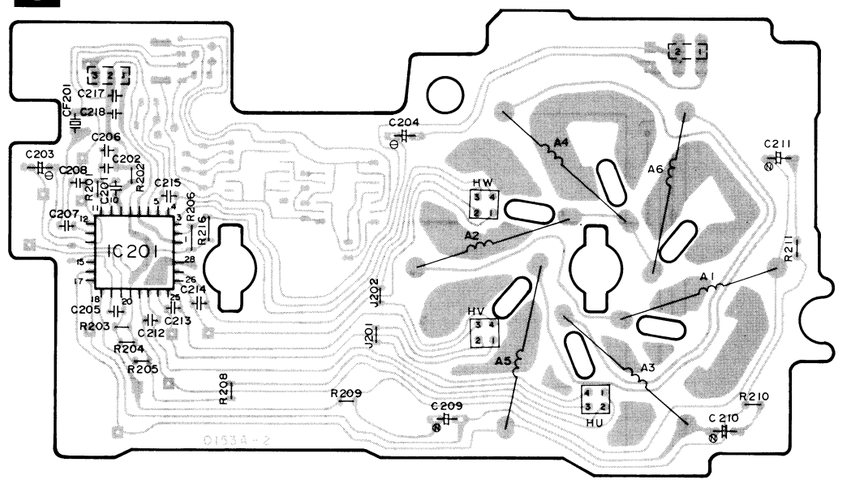
BIAS ADJUST



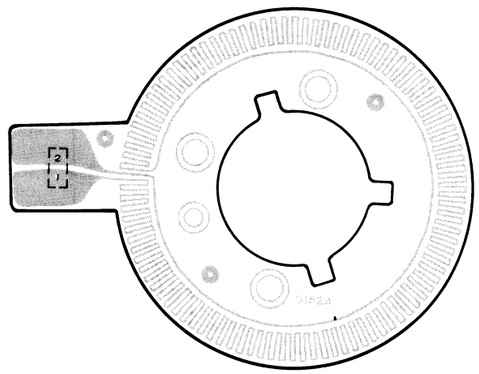
JACK P.C.B.



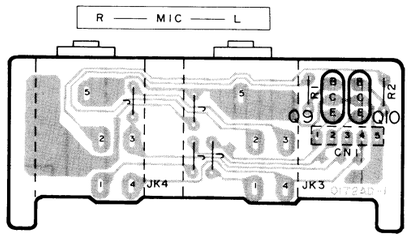
I CAPSTAN MOTOR (D.D) P.C.B.



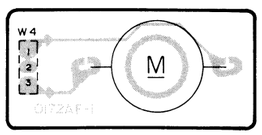
J FG P.C.B.



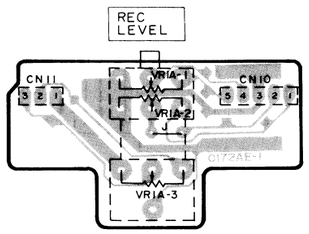
A MIC JACK P.C.B.



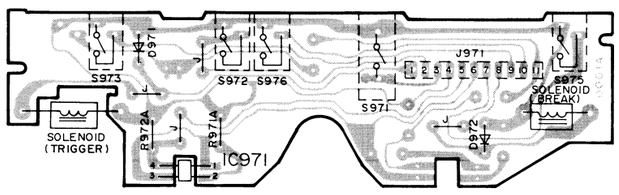
E REEL MOTOR P.C.B.



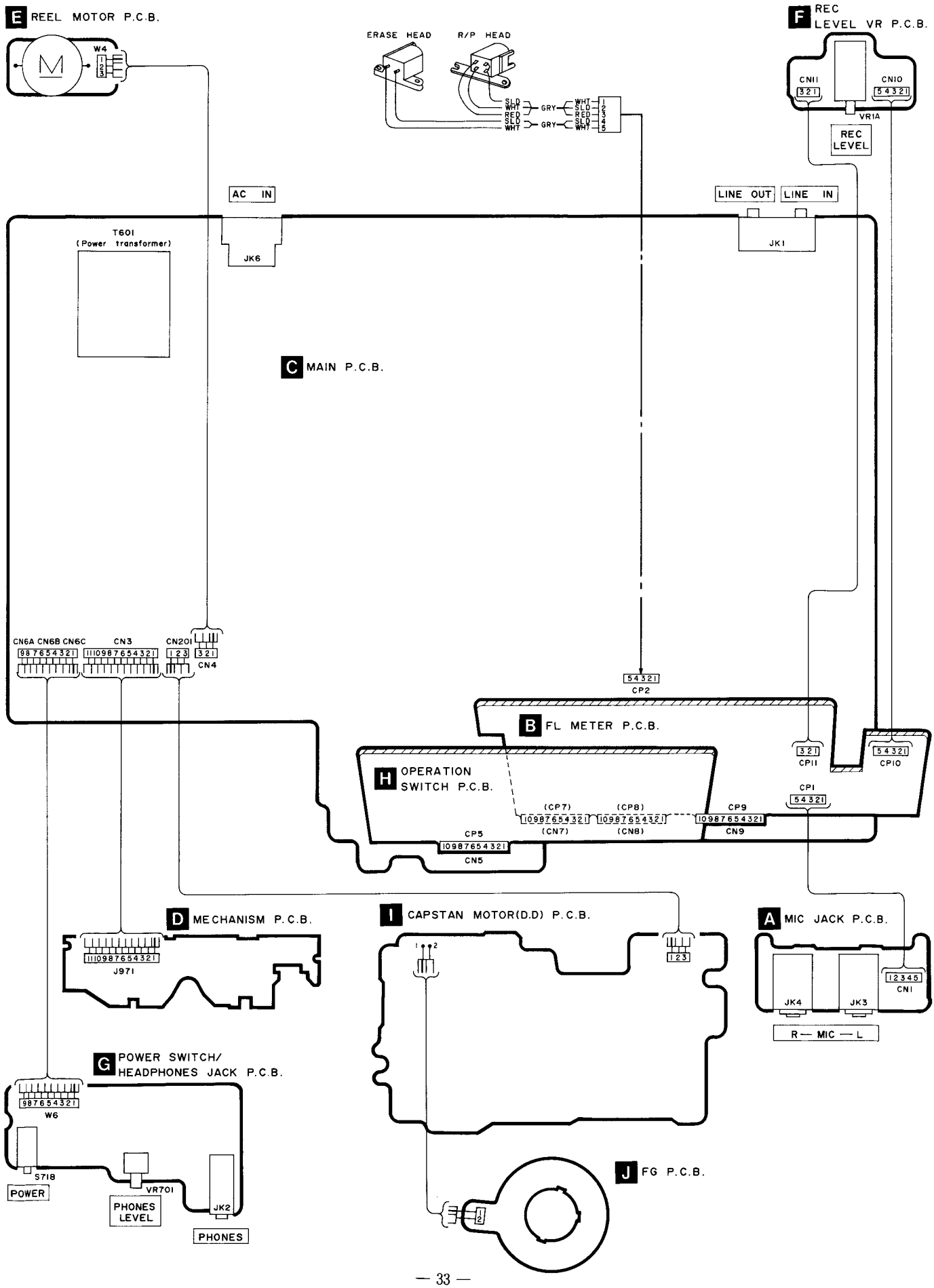
F REC LEVEL VR P.C.B.



D MECHANISM P.C.B.



■ WIRING CONNECTION DIAGRAM



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC1	AN7351K	IC, PLAYBACK EQ./MIC AMP	
IC201	HA13440MPEL	IC, MOTOR DRIVE	
IC301	UPC1297CA	IC, DOLBY HX PRO	
IC401, 402	TEA0665	IC, DOLBY B/C NR	
IC551	HD404302SA07	IC, MICROCOMPUTER;FL METER	
IC552	M5218L	IC, LEVEL METER AMP	
IC553	M5218L	IC, BUFFER AMP	
IC701, 702	M5218L	IC, Class AA : H.P. AMP	
IC901	MB88511-224N	IC, MICROCOMPUTER;MECHANICAL	
IC902	BA6218	IC, REEL MOTOR CONTROL	
IC903	M5218L	IC, MUSIC SELECTOR AMP	
IC971	GP2S06BC	IC, PHOTO COUPLER	
		TRANSISTOR(S)	
Q1, 2	2SJ164PQRTA	TRANSISTOR	
Q3-6	2SK381BCDTA	TRANSISTOR	
Q7, 8	2SJ164PQRTA	TRANSISTOR	
Q9, 10	2SD1450RSTA	TRANSISTOR	
Q11-14	2SC3311AQSTA	TRANSISTOR	
Q17, 18	2SA1309AQSTA	TRANSISTOR	
Q301, 302	2SC3311AQSTA	TRANSISTOR	
Q303	2SB621ARSTA	TRANSISTOR	⚠
Q304	2SD592A	TRANSISTOR	
Q305, 306	2SA1309AQSTA	TRANSISTOR	
Q401-404	2SC3311AQSTA	TRANSISTOR	
Q551	2SA1309AQSTA	TRANSISTOR	
Q601	2SA1309AQSTA	TRANSISTOR	⚠
Q602, 603	2SC3311AQSTA	TRANSISTOR	⚠
Q604	2SD2037EFTA	TRANSISTOR	
Q605	2SB1357EFTA	TRANSISTOR	
Q606	2SD2037EFTA	TRANSISTOR	
Q607	2SB621ARSTA	TRANSISTOR	
Q608	2SD2037EFTA	TRANSISTOR	
Q609	2SC3311AQSTA	TRANSISTOR	⚠
Q610	2SA1309AQSTA	TRANSISTOR	⚠
Q901	2SC3311AQSTA	TRANSISTOR	
Q902	DTA114ESTP	TRANSISTOR	
Q903	DTC114ESTP	TRANSISTOR	
Q904	2SB1030RSTTA	TRANSISTOR	⚠
Q905	DTA114ESTP	TRANSISTOR	
Q906	DTC114ESTP	TRANSISTOR	
Q907	2SB1030RSTTA	TRANSISTOR	⚠
Q908	DTC114YSTP	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q909	2SC3311AQSTA	TRANSISTOR	
Q910	2SB1030RSTTA	TRANSISTOR	⚠
Q911	2SC3311AQSTA	TRANSISTOR	
Q912	DTC114ESTP	TRANSISTOR	
Q915	DTC114YSTP	TRANSISTOR	
Q916	2SB1030RSTTA	TRANSISTOR	
Q917	2SD592A	TRANSISTOR	
Q918	2SC3311AQSTA	TRANSISTOR	
Q919-921	DTA114ESTP	TRANSISTOR	
Q923, 924	DTA114ESTP	TRANSISTOR	
Q925	DTC114ESTP	TRANSISTOR	
Q926	2SB1030RSTTA	TRANSISTOR	
Q927	2SC3311AQSTA	TRANSISTOR	(EB)
		DIODE(S)	
D1, 2	MA167TA	DIODE	
D3-8	MA165TA	DIODE	
D301	MA165TA	DIODE	
D302	MA4056MTA	DIODE	
D303	MA165TA	DIODE	
D551-554	MA165TA	DIODE	
D555, 556	MA4051MTA	DIODE	
D601-606	1SR35200TB	DIODE	⚠
D607, 608	MA4091MTA	DIODE	
D609	MA4200M	DIODE	
D610	MA4062HTA	DIODE	
D611	1SR35200TB	DIODE	⚠
D612	MA165TA	DIODE	
D613	MA4120M	DIODE	
D614	MA165TA	DIODE	
D615	MA4330MTA	DIODE	
D901, 902	1SR35200TB	DIODE	
D903	MA165TA	DIODE	⚠
D904-909	MA165TA	DIODE	
D910	MA4051MTA	DIODE	
D911	MA165TA	DIODE	
D913	MA4056H	DIODE	
D914	MA4091MTA	DIODE	
D915, 916	MA165TA	DIODE	⚠
D917-921	MA165TA	DIODE	
D924	MA165TA	DIODE	
D971, 972	1SS133	DIODE	
		VARIABLE RESISTOR(S)	
VR1, 2	EVNDXAA00B53	V.R, PLAYBACK GAIN ADJ.	

Ref. No.	Part No.	Part Name & Description	Remarks
VR1A	EWGU2A029A54	V. R, REC. LEVEL CONTROL	
VR2A	EVJ02SF06G15	V. R, BALANCE CONTROL	
VR3, 4	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR301, 302	EVNDXAA00B14	V. R, OVERALL FREQ. ADJ.	
VR303	EVJ02VF04B53	V. R, BIAS CURRENT ADJ.	
VR701	EVU57A043A14	V. R, HEADPHONES CONTROL	
		COIL(S)	
L1, 2	RLZ0003	COIL	
L3, 4	SLQX272-1YT	COIL	
L301	SL09B4-K	COIL	
L302, 303	SL09B1-K	COIL	
L401, 402	QLM9Z10K	COIL	
L403, 404	SLM1B8-K	COIL	
		TRANSFORMER(S)	
T601	RTP1K4B007-V	POWER TRANSFORMER	(EB) ⚠
T601	RTP1K4C004-V	POWER TRANSFORMER	(P, PC) ⚠
T601	RTP1K4E008-V	POWER TRANSFORMER	(E, E5, EG) ⚠
		OSCILLATOR(S)	
X551	EF0GC4004T4	CERAMIC FILTER	
X901	EF0GC6004T4	CERAMIC FILTER	
		DISPLAY TUBE	
FL551	RSL0018-F	DISPLAY TUBE (FL METER)	
		SWITCH(ES)	
S701	EVQQTG05R	SW, STOP	
S702	EVQQTG05R	SW, F. F.	
S703	EVQQTG05R	SW, REW.	
S704	EVQQTG05R	SW, PLAYBACK	
S705	EVQQTG05R	SW, RECORD	
S706	EVQQTG05R	SW, PAUSE	
S707	EVQQTG05R	SW, DOLBY NR C	
S708	EVQQTG05R	SW, DOLBY NR B	
S709	EVQQTG05R	SW, MPX FILTER	
S710	SSS166	SW, TIMER	
S711	EVQQTG05R	SW, COUNTER RESET	
S713	EVQQTG05R	SW, METER RANGE	
S714	EVQQTG05R	SW, MEMORY REPEAT	
S715	EVQQTG05R	SW, MEMORY STOP	
S716	EVQQTG05R	SW, APRS	
S717	EVQQTG05R	SW, AUTO REC MUTE	
S718	SSH1230	SW, POWER	
S971	RSH1A89Z	SW, MODE	
S972	RSH1A90Z	SW, HALF	

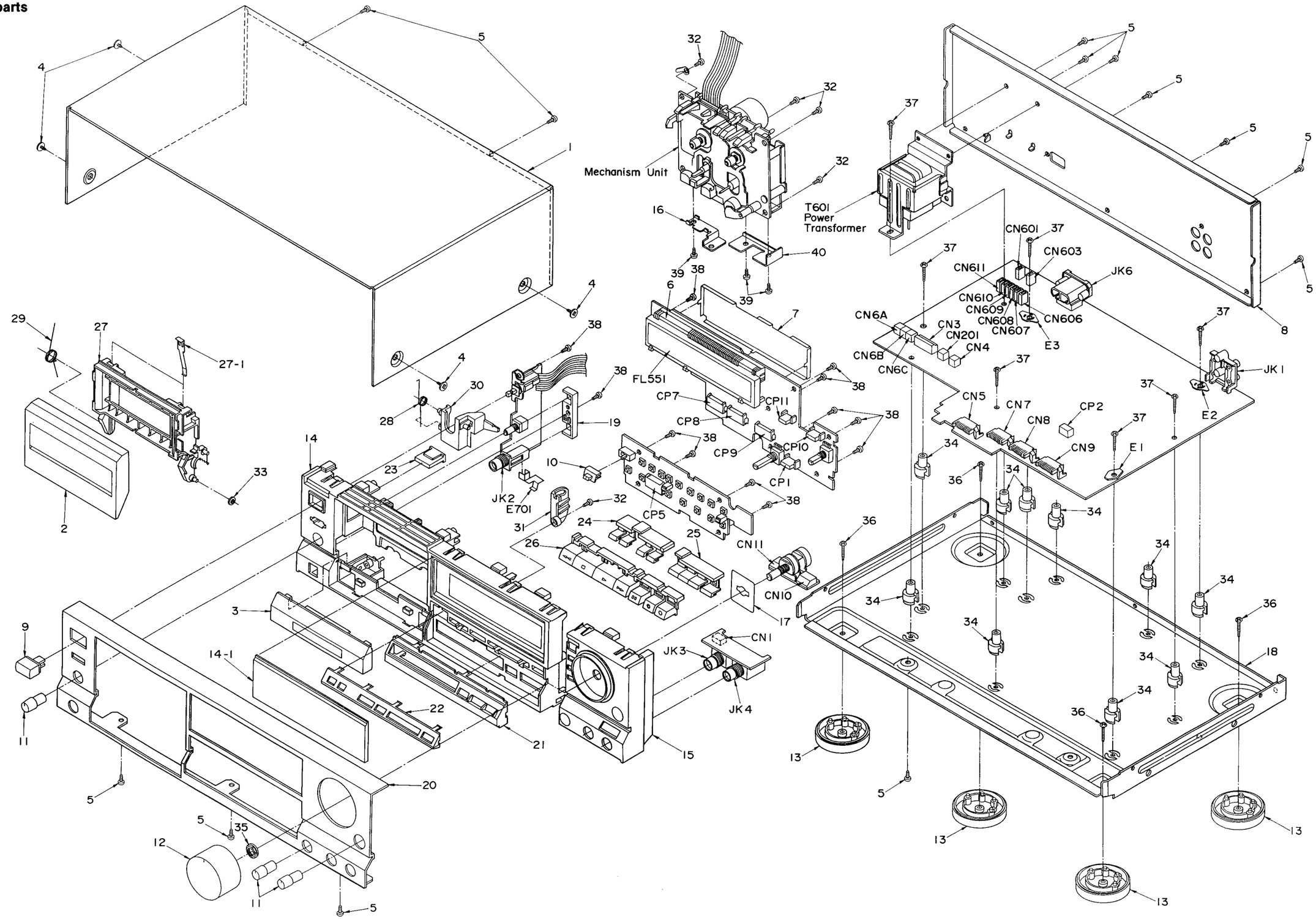
Ref. No.	Part No.	Part Name & Description	Remarks
S973	RSH1A90Z	SW, ATS	
S975	RSH1A90Z	SW, REC INHIBIT	
S976	RSH1A90Z	SW, ATS	
		CONNECTOR(S) AND SOCKET(S)	
CN1	SJT30545JQ	CONNECTOR(5P)	
CN3	SJSD1105	CONNECTOR(11P)	
CN4	RJS1A1703	CONNECTOR(3P)	
CN5	RJU003K010M	SOCKET(10P)	
CN6A-6C	RJS1A1703	CONNECTOR(3P)	
CN7-9	RJU003K010M	SOCKET(10P)	
CN10	SJT30545JQ	CONNECTOR(5P)	
CN11	SJT30345JQ	CONNECTOR(3P)	
CN201	RJS1A1703	CONNECTOR(3P)	
CN201A	RJS2T42A	CONNECTOR(2P)	
CN601	RJS1A1101	SOCKET(1P)	⚠
CN603	RJS1A1101	SOCKET(1P)	⚠
CN606-611	RJS1A1101	SOCKET(1P)	
CP1	SJS50578JQ	SOCKET(5P)	
CP2	SJTD513	CONNECTOR(5P)	
CP5	RJT003K010	CONNECTOR(10P)	
CP7-9	RJT003K010	CONNECTOR(10P)	
CP10	SJS50578JQ	SOCKET(5P)	
CP11	SJS50378JQ	SOCKET(3P)	
		GND PART(S)	
E1-3	SNE1004-1	GND PLATE	
E701	SUSD165	GND SPRING	
		JACK(S)	
JK1	SJF3069N	TERMINAL BOARD	
JK2	SJJ146B	JACK, HEADPHONES	
JK3, 4	RJJ65MS01	JACK, MIC	
JK6	SJS9236	AC INLET	(E, E5, EB, EG) ⚠
JK6	SJSD16	AC INLET	(P, PC) ⚠
		LED BLOCK	
ZD701	LN021490PH	LED BLOCK ASS'Y	
		CERAMIC FILTER(S)	
CF201	RSXZ935KM01	CERAMIC FILTER	
		JAMPER(S)	
J201, 202	ERJ6GEY0R00V	CHIP JAMPER	

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RKM0036-K	CABINET	
2	RYF0027	CASSETTE LID	
3	RYQ0032	ORNAMENT	
4	SNE2129-1	SCREW	
5	XTBS3+8JFZ1	SCREW	
6	RMN0021	FL HOLDER	
7	RSC0048	SHIELD PLATE	
8	RGR0024-B	REAR PANEL	(E)
8	RGR0024-D	REAR PANEL	(E5)
8	RGR0024-F	REAR PANEL	(EB)
8	RGR0024-G	REAR PANEL	(P, PC)
8	RGR0024-M	REAR PANEL	(EG)
9	RGU0030	BUTTON, POWER	
10	RGV0022	KNOB, TIMER	
11	RGW0032	KNOB, BALANCE LEVEL	
12	RGW0033	KNOB, REC LEVEL	
13	RKA0009-1	FOOT	
14	RFKNSB555EAK	FRONT GRILLE ASS'Y (1)	
14-1	RKW0038	TRANSPARENT PLATE	
15	RFKNSB655EBK	FRONT GRILLE ASS'Y (2)	
16	RMC0040	BRACKET	
17	RMC0056	SHIELD PLATE	
18	RMK0026-1	CHASSIS	
19	RMN0022	ORNAMENT	
20	RFKGSB555E-K	FRONT PANEL ASS'Y	(E, E5, EB, EG)
20	RFKGSB555P-K	FRONT PANEL ASS'Y	(P, PC)
21	RGK0117	ORNAMENT, BUTTON (A)	
22	RGK0119	ORNAMENT, BUTTON (B)	
23	RGU0130	BUTTON, EJECT	
24	RFKNSB555E-K	BUTTON ASS'Y, COUNTER	
25	RGU0132	BUTTON, NOISE REDUCTION	
26	RGU0133	BUTTON, OPERATION	
27	RKF0020A-3	CASSETTE HOLDER	
27-1	QBP2006A	SPRING, TAPE PRESSURE	
28	RME0032	SPRING	
29	RME0034	SPRING	
30	RML0086	EJECT LEVER	
31	RMR0153	DAMPER GEAR ASS'Y	
32	XTB3+10JFZ	SCREW	
33	SUD444-1	WASHER	
34	SHE187-2	HOLDER	
35	SNE4021-1	NUT	
36	XTB3+6J	SCREW	
37	XTB3+20J	SCREW	
38	XTB3+8JFZ	SCREW	
39	XTB26+4FFZ	SCREW	
40	RSC0076	SHIELD PLATE	
		PACKING MATERIAL	
P1	RPG0256	CARTON BOX	(PC, E, E5, EB, EG)
P1	RPG0300	CARTON BOX	(P)
P2	RPN0179	PAD, FRONT/BACK	
P3	SPS5185	PAD, ACCESSORIES	
P4	SPP756	PROTECTION COVER	
		ACCESSORIES	
A1	RQF0297	INSTRUCTION MANUAL	(E, E5)
A1	RQF0298	INSTRUCTION MANUAL	(EB)
A1	RQF0299	INSTRUCTION MANUAL	(EG)
A1	RQF0300	INSTRUCTION MANUAL	(P)
A1	RQF0301	INSTRUCTION MANUAL	(PC)
A2	SFDAC05E03	POWER CORD	(E, E5, EG) ⚠
A2	SJA175	POWER CORD	(PC) ⚠
A2	SJA175-1	POWER CORD	(P) ⚠
A2	SJA193-1	POWER CORD	(EB) ⚠
A3	SJP2249-3	STEREO CONNECTION CABLE	
		MECHANISM UNIT	
MECH1	RAA0801	MECHANISM ASS'Y	
		PRINTED CITCUIT BOARDS	
PWB1	REP0308A	MAIN P.C.B. ASS'Y	(E, E5, EG)
PWB1	REP0308B	MAIN P.C.B. ASS'Y	(EB)
PWB1	REP0308C	MAIN P.C.B. ASS'Y	(P, PC)
PWB2	REP0309A	SUB P.C.B. ASS'Y	

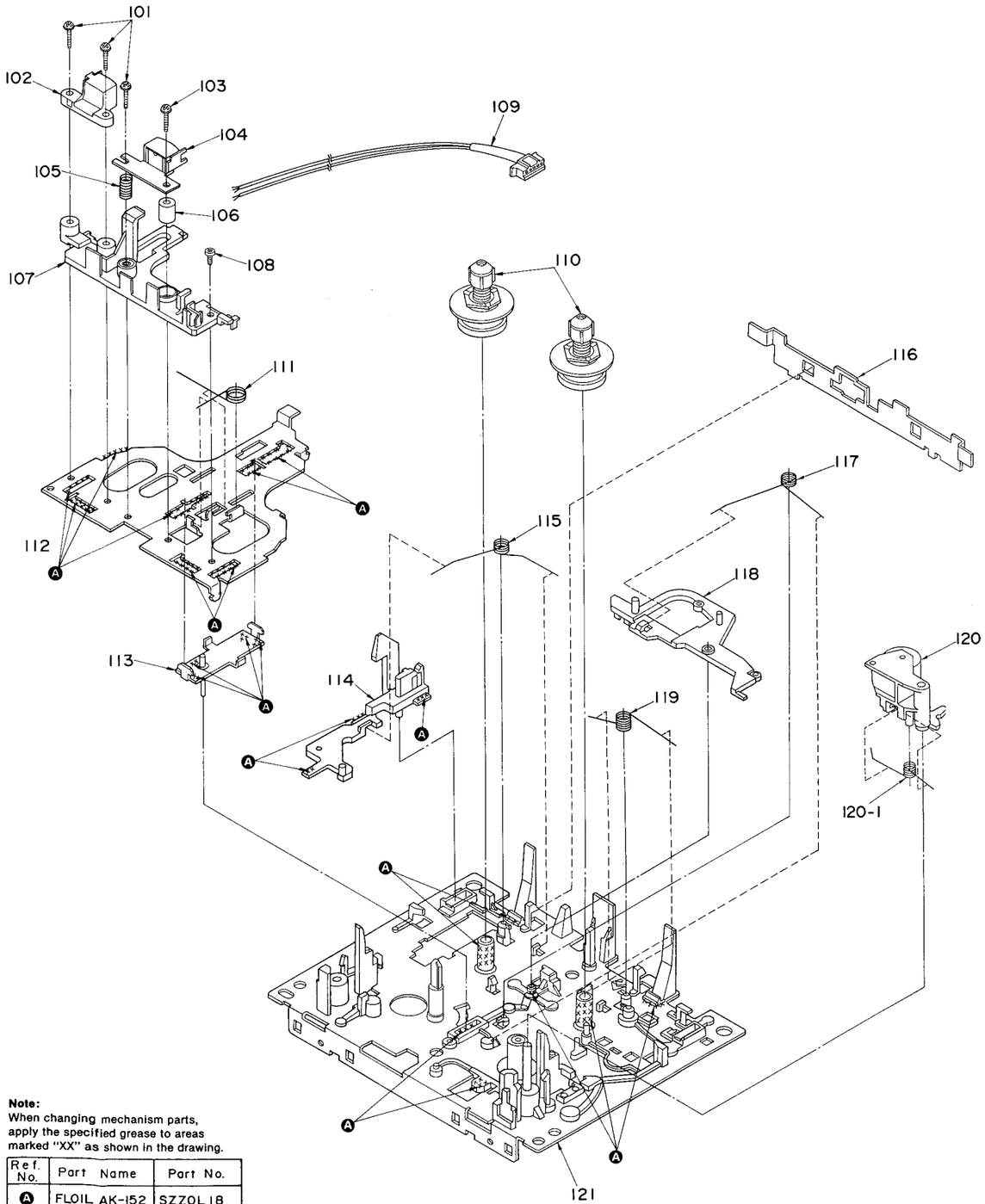
■ EXPLODED VIEWS

• Cabinet parts



• **Mechanical parts**

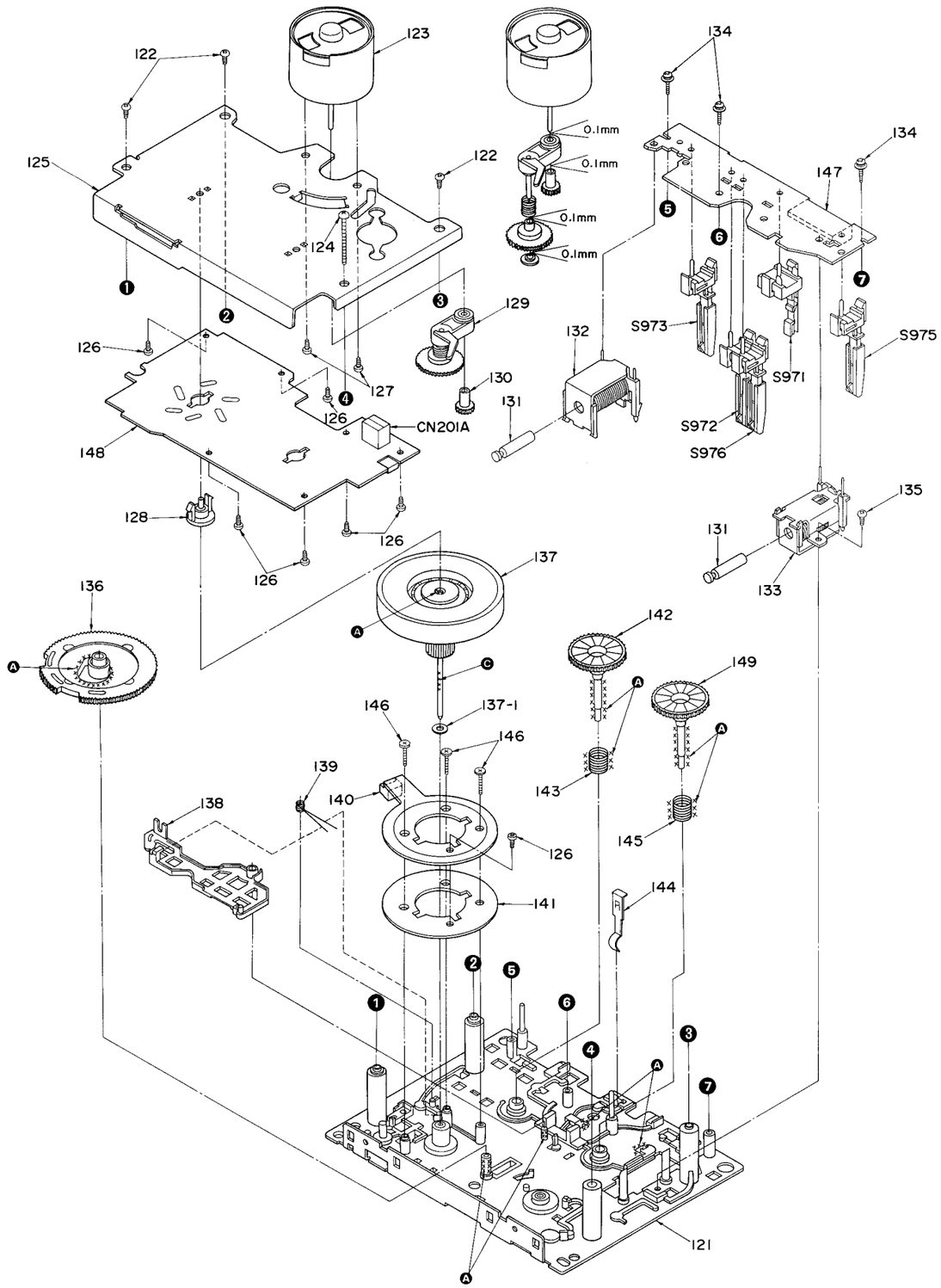
(Top view)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZOL18
C	FLOIL947P	RZZOL02

(Bottom view)



■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
101	QHQ1361A	SCREW	
102	SJH96-1	E HEAD	
103	RHE5201ZA	SCREW	
104	RJH4C35GZAM	R/P HEAD	
105	QBC1278A	SPRING	
106	RHM278ZA	SPACER	
107	RMD5013ZC	HEAD SPACER	
108	XTN2+5F	SCREW	
109	REX0075	LEAD WIRE BLOCK	
110	RXR0001	REEL TABLE	
111	RUW139ZA	SPRING	
112	RMA0047B	HEAD BASE	
113	RXQ0078	MAIN ROD ASS'Y	
114	RMM0012-2	EJECT ROD(L)	
115	RME0018-1	SPRING	
116	RUB502Z	LEVER	
117	RME0020	SPRING	
118	RXL0007	BRAKE LEVER	
119	RUW142ZA	SPRING	
120	RXP0004	PINCH ROLLER ARM	
120-1	RUW140ZB	SPRING	
121	RFKRSB555E-K	CHASSIS ASS'Y	
122	XTN26+7J	SCREW	
123	MMN-6F4RA88	REEL MOTOR	
124	XTN26+26F	SCREW	
125	RMA0048A	FLYWHEEL PLATE	
126	XTN2+3F	SCREW	
127	XSN26+3	SCREW	
128	RMR0141	THRUST BEARING	
129	RXG0009	GEAR ASS'Y	
130	RDG0034	REEL MOTOR GEAR	
131	RUB428Z	MOVING IRON CORE	
132	RSJ0003	SOLENOID	
133	RXQ0011	BRAKE SOLENOID	
134	XTW2+8S	SCREW	
135	XTN26+4F	SCREW	
136	RDG0030	MAIN GEAR	
137	RXF0008	FLYWHEEL	
137-1	RNW139ZA	WASHER	
138	RML0037	LEVER	
139	RUW147ZA	SPRING	
140	RJS2T7ZA	CONNECTOR(2P)	
141	RMQ0037	FG YOKE	
142	RXG0003	REEL TABLE GEAR	
143	RUQ112ZA	SPRING	
144	RUS609Z	TAPE PRESSURE SPRING	
145	RUQ111ZA	SPRING	
146	RHE5204ZA	SCREW	
147	RJS10T7ZA	CONNECTOR(10P)	
148	REP0268	STATER P.C.B. ASS'Y	
149	RDG0033	REEL TABLE GEAR	

■ RESISTORS & CAPACITORS

Notes : * Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1, 2	ERDS2TJ223T	1/4W 22K
R3, 4	ERDS2TJ473T	1/4W 47K
R5, 6	ERDS2TJ102T	1/4W 1K
R7, 8	ERDS2TJ225T	1/4W 2.2M
R9, 10	ERDS2TJ104T	1/4W 100K
R11, 12	ERDS2TJ183T	1/4W 18K
R13, 14	ERDS2TJ101T	1/4W 100
R15, 16	ERDS2TJ820T	1/4W 82
R17, 18	ERDS2TJ153T	1/4W 15K
R19, 20	ERDS2TJ103T	1/4W 10K
R21, 22	ERDS2TJ564T	1/4W 560K
R23, 24	ERDS2TJ682T	1/4W 6.8K
R25, 26	ERDS2TJ223T	1/4W 22K
R27, 28	ERDS2TJ103T	1/4W 10K
R29, 30	ERDS2TJ472T	1/4W 4.7K
R31, 32	ERDS2TJ392T	1/4W 3.9K
R33, 34	ERDS2TJ102T	1/4W 1K
R35, 36	ERDS2TJ820T	1/4W 82
R39, 40	ERDS2TJ121T	1/4W 120
R41, 42	ERDS2TJ392T	1/4W 3.9K
R43, 44	ERDS2TJ152T	1/4W 1.5K
R45, 46	ERDS2TJ272T	1/4W 2.7K
R47, 48	ERDS2TJ104T	1/4W 100K
R49, 50	ERDS2TJ564T	1/4W 560K
R57, 58	ERDS2TJ153T	1/4W 15K
R59, 60	ERDS2TJ182T	1/4W 1.8K
R61, 62	ERDS2TJ333T	1/4W 33K
R63, 64	ERDS2TJ472T	1/4W 4.7K
R65, 66	ERDS2TJ102T	1/4W 1K
R67, 68	ERDS2TJ223T	1/4W 22K
R69, 70	ERDS2TJ472T	1/4W 4.7K
R71, 72	ERDS2TJ561T	1/4W 560
R201	ERJ6GEYJ333V	1/10W 33K
R202	ERJ6GEYJ683V	1/10W 68K
R203-205	ERJ6GEYJ1R5V	1/10W 1.5
R206	ERJ8GEYJ222V	1/8W 2.2K
R208	ERJ6GEYJ222V	1/10W 2.2K
R209-211	ERJ6GEYJ4R7V	1/10W 4.7
R216	ERJ8GEYJ222V	1/8W 2.2K
R301	ERDS2TJ1R0T	1/4W 1.0
R302, 303	ERDS2TJ183T	1/4W 18K
R304, 305	ERDS2TJ100T	1/4W 10
R306	ERDS2TJ471T	1/4W 470
R307	ERDS2TJ222T	1/4W 2.2K
R308	ERDS2TJ472T	1/4W 4.7K
R311, 312	ERDS2TJ100T	1/4W 10
R313, 314	ERDS2TJ154T	1/4W 150K
R315, 316	ERDS2TJ153T	1/4W 15K
R317	ERDS2TJ822T	1/4W 8.2K
R318	ERDS2TJ272T	1/4W 2.7K
R319	ERDS2TJ102T	1/4W 1K
R320	ERDS2TJ332T	1/4W 3.3K
R321	ERDS1FVJ121T	1/2W 120 (E, E5, EG, P, PC) ⚠
R321	ERDS1FVJ561T	1/2W 560 (EB) ⚠
R322	ERDS2TJ563T	1/4W 56K
R323	ERDS2TJ103T	1/4W 10K
R324	ERDS2TJ563T	1/4W 56K
R325-327	ERDS1FVJ561T	1/2W 560 (EB)
R401, 402	ERDS2TJ101T	1/4W 100
R403, 404	ERDS2TJ272T	1/4W 2.7K
R405, 406	ERDS2TJ103T	1/4W 10K
R407, 408	ERDS2TJ242	1/4W 2.4K
R409-412	ERDS2TJ684T	1/4W 680K
R413, 414	ERDS2TJ562T	1/4W 5.6K
R415, 416	ERDS2TJ102T	1/4W 1K
R417, 418	ERDS2TJ332T	1/4W 3.3K
R419, 420	ERDS2TJ333T	1/4W 33K
R421-424	ERDS2TJ823T	1/4W 82K
R425, 426	ERDS2TJ683T	1/4W 68K
R427, 428	ERDS2TJ222T	1/4W 2.2K
R429, 430	ERDS2TJ512	1/4W 5.1K
R431, 432	ERDS2TJ242	1/4W 2.4K
R551, 552	ERDS2TJ104T	1/4W 100K
R553, 554	ERDS2TJ563T	1/4W 56K
R555, 556	ERDS2TJ104T	1/4W 100K
R557, 558	ERDS2TJ220T	1/4W 22
R559, 560	ERDS2TJ152T	1/4W 1.5K
R561	ERDS2TJ102T	1/4W 1K
R562	ERDS2TJ471T	1/4W 470
R563, 564	ERDS2TJ103T	1/4W 10K
R565	ERDS2TJ105T	1/4W 1M
R567	ERDS1FVJ120T	1/2W 12
R569, 570	ERDS2TJ101T	1/4W 100
R571	ERDS2TJ152T	1/4W 1.5K
R572	ERDS2TJ102T	1/4W 1K
R573	ERDS2TJ560T	1/4W 56
R574	ERDS2TJ220T	1/4W 22
R575, 576	ERDS2TJ821	1/4W 820
R601	ERDS2TJ472T	1/4W 4.7K ⚠
R602	ERDS2TJ472T	1/4W 4.7K
R603	ERDS2TJ103T	1/4W 10K
R604	ERDS2TJ472T	1/4W 4.7K ⚠
R605	ERDS1FVJ150T	1/2W 15 (E, E5, EG, P, PC) ⚠
R605	ERD2FCVG150T	1/4W 15 (EB) ⚠
R606	ERDS1FVJ100T	1/2W 10 (E, E5, EG, P, PC) ⚠
R606	ERD2FCVG100T	1/4W 10 (EB) ⚠
R607, 608	ERDS2TJ102T	1/4W 1K
R611, 612	ERDS1FVJ270T	1/2W 27 (E, E5, EG, P, PC) ⚠
R611, 612	ERD2FCVG270T	1/4W 27 (EB) ⚠
R613	ERDS2TJ222T	1/4W 2.2K ⚠
R614	ERDS2TJ222T	1/4W 2.2K
R615	ERDS2TJ1R0T	1/4W 1.0 ⚠
R616	ERDS2TJ391T	1/4W 390 ⚠
R617, 618	ERDS2TJ221T	1/4W 220 (EB)
R617, 618	ERDS2TJ560T	1/4W 56 (E, E5, EG, P, PC)
R619, 620	ERQ16NKR15E	1/6W 0.15 (EB) ⚠
R623, 624	ERDS2TJ101T	1/4W 100 (EB)
R625	ERDS2TJ181T	1/4W 180 (EB)
R626, 627	ERDS2TJ101T	1/4W 100 (EB)
R628	ERDS2TJ103T	1/4W 10K
R629	ERDS2TJ472T	1/4W 4.7K ⚠
R630	ERD2FCVG100T	1/4W 10 (EB) ⚠
R631-636	ERDS2TJ221T	1/4W 220 (EB)
R637, 638	ERDS2TJ391T	1/4W 390 ⚠
R701	ERDS2TJ821T	1/4W 820
R702	ERDS2TJ102T	1/4W 1K
R703	ERDS2TJ122T	1/4W 1.2K
R704	ERDS2TJ152T	1/4W 1.5K
R705	ERDS2TJ182T	1/4W 1.8K
R706	ERDS2TJ222T	1/4W 2.2K
R707	ERDS2TJ332T	1/4W 3.3K
R708	ERDS2TJ472T	1/4W 4.7K
R709	ERDS2TJ682T	1/4W 6.8K
R710	ERDS2TJ123T	1/4W 12K
R711	ERDS2TJ223T	1/4W 22K
R712	ERDS2TJ821T	1/4W 820
R713	ERDS2TJ102T	1/4W 1K
R714	ERDS2TJ122T	1/4W 1.2K
R715	ERDS2TJ152T	1/4W 1.5K
R716	ERDS2TJ182T	1/4W 1.8K
R717	ERDS2TJ181T	1/4W 180
R718	ERDS2TJ331T	1/4W 330
R719, 720	ERDS2TJ180	1/4W 18
R721, 722	ERDS2TJ330T	1/4W 33
R723, 724	ERDS2TJ100T	1/4W 10
R725, 726	ERDS2TJ102T	1/4W 1K
R727, 728	ERDS2TJ332T	1/4W 3.3K
R901	ERDS2TJ105T	1/4W 1M
R902	ERDS2TJ103T	1/4W 10K

Ref. No.	Part No.	Values & Remarks
R903	ERDS2TJ471T	1/4W 470
R904	ERDS2TJ103T	1/4W 10K
R905	ERDS2TJ182T	1/4W 1.8K
R906	ERDS2TJ682T	1/4W 6.8K
R907	ERDS2TJ103T	1/4W 10K
R908	ERDS2TJ392T	1/4W 3.9K
R909	ERDS2TJ272T	1/4W 2.7K
R910	ERDS2TJ103T	1/4W 10K
R911	ERDS2TJ392T	1/4W 3.9K
R912	ERDS2TJ272T	1/4W 2.7K
R913	ERDS2TJ561T	1/4W 560
R914	ERDS2TJ102T	1/4W 1K
R915	ERDS2TJ103T	1/4W 10K
R916	ERDS2TJ332T	1/4W 3.3K
R917, 918	ERDS2TJ103T	1/4W 10K
R919, 920	ERDS2TJ223T	1/4W 22K
R922	ERDS2TJ472T	1/4W 4.7K
R923	ERDS2TJ152T	1/4W 1.5K
R924	ERDS2TJ223T	1/4W 22K ⚠
R925	ERDS2TJ821T	1/4W 820
R926	ERDS2TJ223T	1/4W 22K ⚠
R927	ERDS2TJ821T	1/4W 820
R928	ERG1SJ150E	1W 15 ⚠
R929	ERG1SJ180E	1W 18 ⚠
R930	ERDS2TJ223T	1/4W 22K ⚠
R931	ERDS2TJ821T	1/4W 820
R932	ERDS2TJ103T	1/4W 10K (E, E5, EG,
		P, PC)
R932	ERDS2TJ472T	1/4W 4.7K (EB)
R933	ERDS2TJ472T	1/4W 4.7K
R935	ERDS2TJ682T	1/4W 6.8K
R936	ERDS2TJ223T	1/4W 22K
R940	ERDS2TJ562T	1/4W 5.6K
R942	ERDS2TJ821T	1/4W 820
R943	ERDS2TJ223T	1/4W 22K
R944, 945	ERDS1FVJ180T	1/2W 18 ⚠
R946	ERDS2TJ102T	1/4W 1K
R947, 948	ERDS2TJ103T	1/4W 10K
R949	ERDS2TJ472T	1/4W 4.7K
R950	ERDS2TJ821T	1/4W 820
R951	ERDS2TJ101T	1/4W 100
R952	ERDS2TJ823T	1/4W 82K
R953	ERDS2TJ393T	1/4W 39K
R954	ERDS2TJ472T	1/4W 4.7K
R955	ERDS2TJ102T	1/4W 1K
R956	ERDS2TJ473T	1/4W 47K
R957	ERDS2TJ153T	1/4W 15K
R958	ERDS2TJ103T	1/4W 10K
R959	ERDS2TJ152T	1/4W 1.5K
R960	ERDS2TJ472T	1/4W 4.7K
R961	ERDS2TJ821T	1/4W 820
R962	ERDS2TJ183T	1/4W 18K

Ref. No.	Part No.	Values & Remarks
R963	ERDS2TJ473T	1/4W 47K
R964	ERDS2TJ392T	1/4W 3.9K
R965	ERDS2TJ104T	1/4W 100K
R970	ERDS2TJ222T	1/4W 2.2K
R971	ERDS2TJ332T	1/4W 3.3K
R971A	ERDS2TJ271T	1/4W 270
R972	ERDS2TJ472T	1/4W 4.7K
R972A	ERDS2TJ183T	1/4W 18K
R973	ERDS2TJ682T	1/4W 6.8K
R974	ERDS2TJ123T	1/4W 12K
R975	ERDS2TJ223T	1/4W 22K
R977	ERDS2TJ223T	1/4W 22K ⚠
R978	ERDS2TJ473T	1/4W 47K
R979	ERDS2TJ272T	1/4W 2.7K
R980	ERDS2TJ472T	1/4W 4.7K
R981	ERDS2TJ392T	1/4W 3.9K
R982	ERDS2TJ223T	1/4W 22K
R983	ERDS2TJ103T	1/4W 10K
R984	ERDS2TJ472T	1/4W 4.7K (EB)
R985	ERDS2TJ222T	1/4W 2.2K (EB)
R986	ERDS2TJ332T	1/4W 3.3K (EB)
R989	ERDS2TJ822T	1/4W 8.2K
R990	ERDS2TJ473T	1/4W 47K
		CAPACITORS
C1, 2	ECEA1EK4R7B	25V 4.7U
C3, 4	ECBT1H681KB5	50V 680P
C5, 6	ECBT1H102KB5	50V 1000P
C7, 8	ECBT1H561KB5	50V 560P
C9, 10	ECEA0JU101B	6.3V 100U
C11, 12	ECQB1H562JZ3	50V 5600P
C13, 14	ECEA1EK4R7B	25V 4.7U
C15, 16	ECBT1H101KB5	50V 100P
C17, 18	ECQB1H822JZ3	50V 8200P
C19, 20	ECEA1HKR47B	50V 0.47U
C21, 22	ECEA1CK100B	16V 10U
C23, 24	ECQV1H273JZ	50V 0.027U
C27, 28	ECQB1H822JZ3	50V 8200P
C29, 30	ECQV1H563JZ3	50V 0.056U
C33, 34	ECBT1H101KB5	50V 100P
C35, 36	ECEA1HK010B	50V 1U
C37, 38	ECQP1121JZ	100V 120P
C43, 44	ECEA1CK100B	16V 10U
C45, 46	ECEA1EK4R7B	25V 4.7U
C47, 48	ECEA1HK010B	50V 1U
C49, 50	ECEA1CK100B	16V 10U
C51, 52	ECKT1H103ZF	50V 0.01U
C201	ECUV1E153MB	25V 0.015U
C202	ECUV1E104KB	25V 0.1U
C203, 204	ECEV1CA100R	16V 10U
C205, 206	ECUV1E104KB	25V 0.1U

Ref. No.	Part No.	Values & Remarks
C207, 208	ECUV1H470KC	50V 47P
C209-211	ECEV1EN4R7R	25V 4.7U
C212-214	ECUV1H103ZFN	50V 0.01U
C215	ECUV1H472KB	50V 4700P
C217, 218	ECUV1E104KB	25V 0.1U
C301	ECQP1153JZ	100V 0.015U
C302	ECEA1EK4R7B	25V 4.7U
C303	ECKT1H392KB	50V 3900P
C304, 305	ECKT1H222KB	50V 2200P
C306	ECKT1H682KB	50V 6800P
C310	ECKD1H472KB	50V 4700P
C311	ECEA1AU101B	10V 100U
C312	ECKT1H103ZF	50V 0.01U
C313, 314	ECKT1H223ZF	50V 0.022U
C315, 316	ECBT1H821KB5	50V 820P
C317, 318	ECBT1H121KB5	50V 120P
C319, 320	ECQV1H563JZ3	50V 0.056U
C321, 322	ECQB1H223JZ3	50V 0.022U
C323, 324	ECQB1H103JZ3	50V 0.01U
C325, 326	ECKT1H122KB	50V 1200P
C328	ECBT1H180J5	50V 18P
C329	ECEA1EK100B	25V 10U
C330	ECKT1H103ZF	50V 0.01U ⚠
C331	ECBT1H180J5	50V 18P
C401, 402	ECBT1H820KB5	50V 82P
C403, 404	ECEA1EK4R7B	25V 4.7U
C405, 406	ECKT1H122KB	50V 1200P
C407, 408	ECKT1H152KB	50V 1500P
C409, 410	ECQB1H472JZ3	50V 4700P
C411, 412	ECEA1CK100B	16V 10U
C413, 414	ECQV1H473JZ3	50V 0.047U
C415, 416	ECQV1H224JZ3	50V 0.22U
C417-420	ECEA1HKR68B	50V 0.68U
C421, 422	ECQV1H224JZ3	50V 0.22U
C423, 424	ECQV1H473JZ3	50V 0.047U
C425, 426	ECEA1CK100B	16V 10U
C427, 428	ECQB1H472JZ3	50V 4700P
C429, 430	ECQB1H103JZ3	50V 0.01U
C431, 432	ECKT1H102KB	50V 0.001U
C551, 552	ECQV1H104JZ3	50V 0.1U
C553, 554	ECEA0JKS101B	6.3V 100U
C555	ECKT1H103ZF	50V 0.01U
C556	ECEA1CK100B	16V 10U
C557	ECEA1EK4R7B	25V 4.7U
C558	ECEA1HK010B	50V 1U
C559	ECBT1C103NS5	16V 0.01U
C561	ECBT1C103NS5	16V 0.01U
C563, 564	ECEA0JK101B	6.3V 100U
C567, 568	ECEA1VK100B	16V 10U
C601	ECKT2H682PEL	500V 6800P
C602, 603	ECEA1EU222E	25V 2200U ⚠
C604, 605	ECKT1H103ZF	50V 0.01U

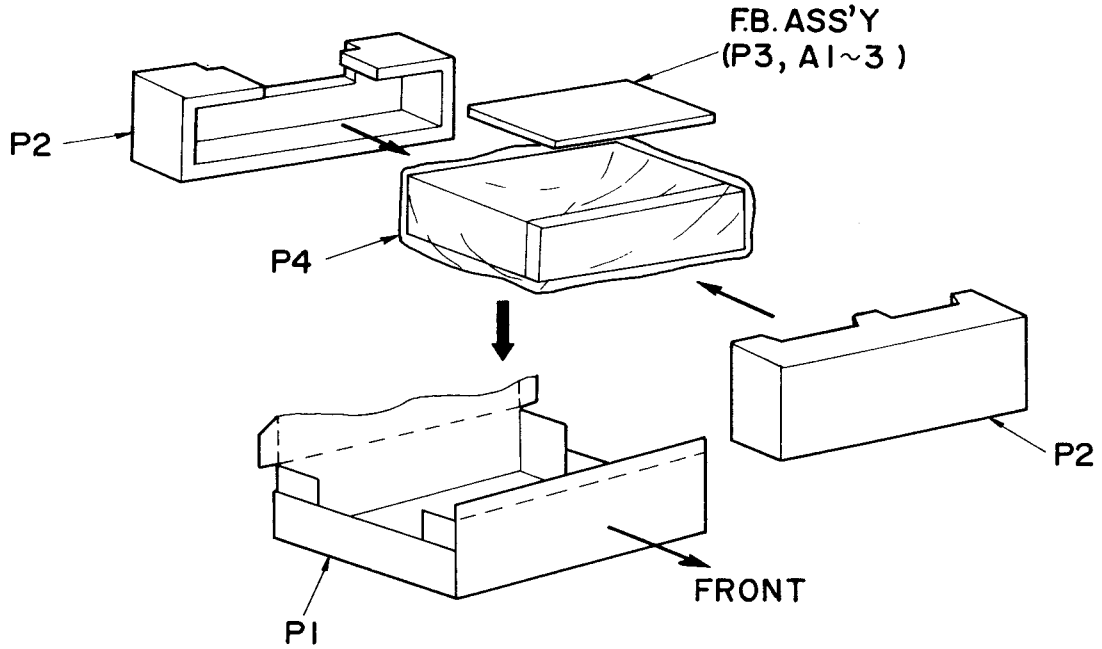
Ref. No.	Part No.	Values & Remarks
C606, 607	ECEA1AU221B	10V 220U
C608, 609	ECKT1H103ZF	50V 0.01U
C610, 611	ECEA1AU102B	10V 1000U
C612	ECEA1EU222E	25V 2200U ⚠
C613	ECKT1H103ZF	50V 0.01U
C615	ECEA1EK100B	25V 10U
C617	ECEA1HU470B	50V 47U
C618	ECKT1H103ZF	50V 0.01U
C619, 620	ECKT1H103ZF	50V 0.01U ⚠
C621	ECKT2H682PEL	500V 6800P ⚠

Ref. No.	Part No.	Values & Remarks
C701	ECKT1H223ZF	50V 0.022U
C702, 703	ECKT1H103ZF	50V 0.01U
C901	ECEA0JU222B	6.3V 2200U
C902	ECKT1H103ZF	50V 0.01U
C903	ECEA1HK010B	50V 1U
C904	ECEA1EK4R7B	25V 4.7U
C905	ECKT1H103ZF	50V 0.01U
C906	ECEA1CN100SB	16V 10U
C907	ECEA1HK010B	50V 1U
C908	ECKT1H103ZF	50V 0.01U

Ref. No.	Part No.	Values & Remarks
C909	ECQB1H822JZ3	50V 8200P
C910	ECEA1CK100B	16V 10U
C911	ECBT1H470J5	50V 47P
C912	ECEA1HK010B	50V 1U
C913	ECKT1H103ZF	50V 0.01U
C914	ECEA1EK4R7B	25V 4.7U
C915	ECEA0JU101B	6.3V 100U
C916	ECKT1H103ZF	50V 0.01U
C917	ECEA1HK010B	50V 1U (EB)
C918	ECKT1H103ZF	50V 0.01U

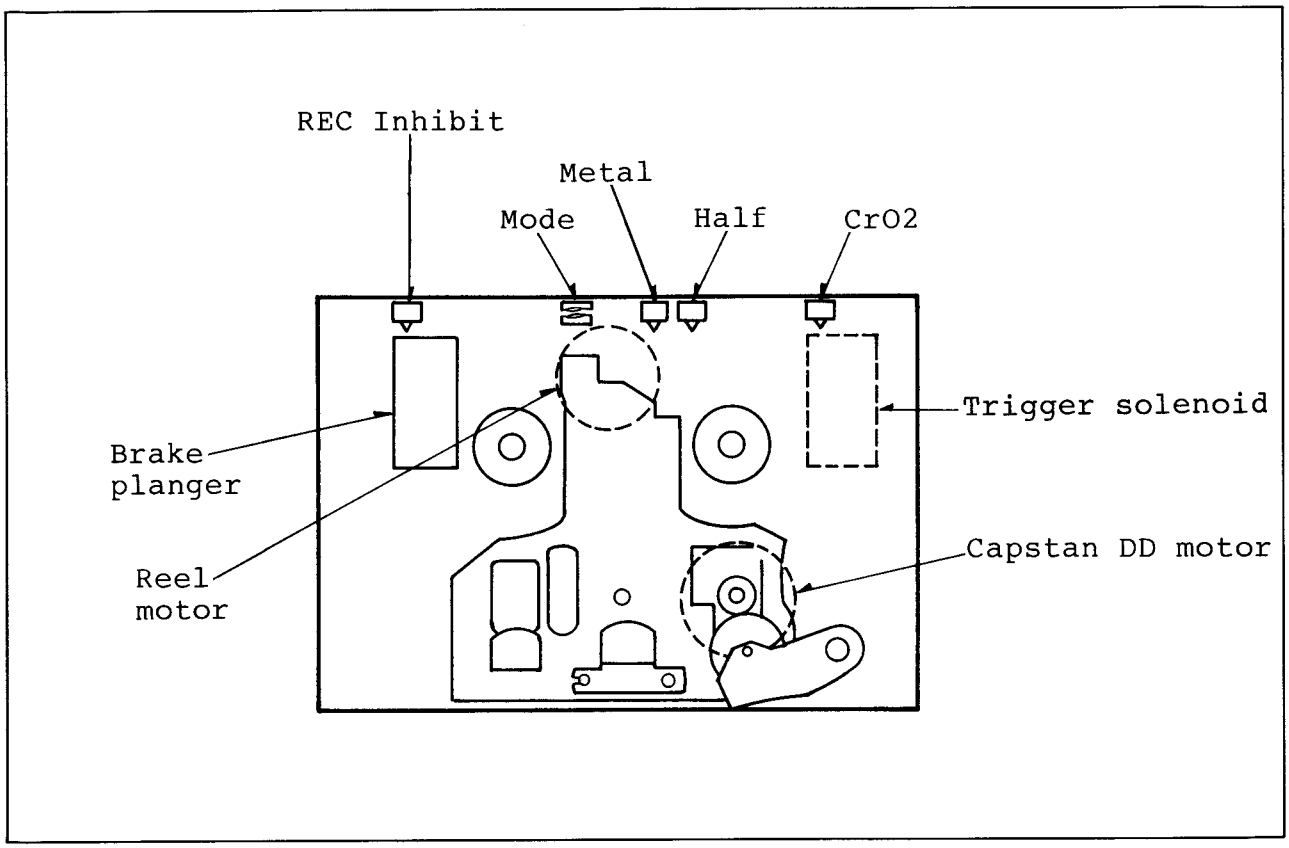
■ PACKING

(Parts list on page 36.)



■TECHNICAL INFORMATION

1. Mechanism composition



Mechanism detection switches

Metal, CrO2 ..... ATS detection

Half switch ..... Cassette detection

Mode switch ..... Mechanism mode detection
Low level during PLAY and PAUSE
High level during STOP

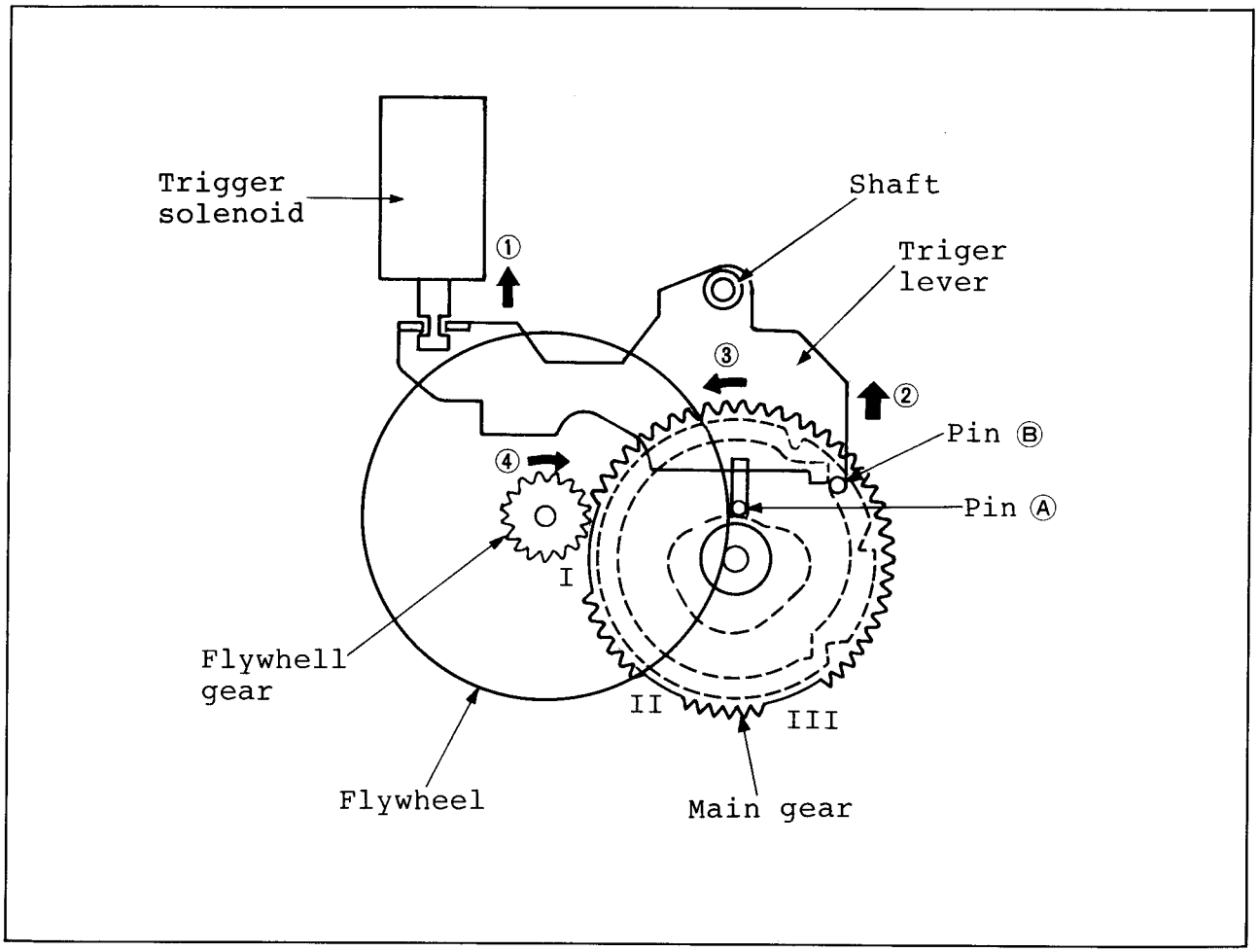
2. Mechanism operation

The mechanism operation is controlled by a microcomputer. There are three mechanism modes STOP, PLAY, and PAUSE. These modes are set by the operation of a trigger solenoid in accordance with the commands from the microcomputer.

There are two motors: a DC reel motor and a DD capstan motor.

(1) Setting of the mechanism mode

The microcomputer causes the trigger solenoid to be momentarily drawn in. This operation causes the main gear to move slightly in the direction indicated by arrow ③ and engage with the flywheel gear. When this occurs, the main gear rotates as far as toothless section III, and the PLAY mode begins. The PAUSE and STOP modes are set in the same way.



Rear View

Position of the main gear

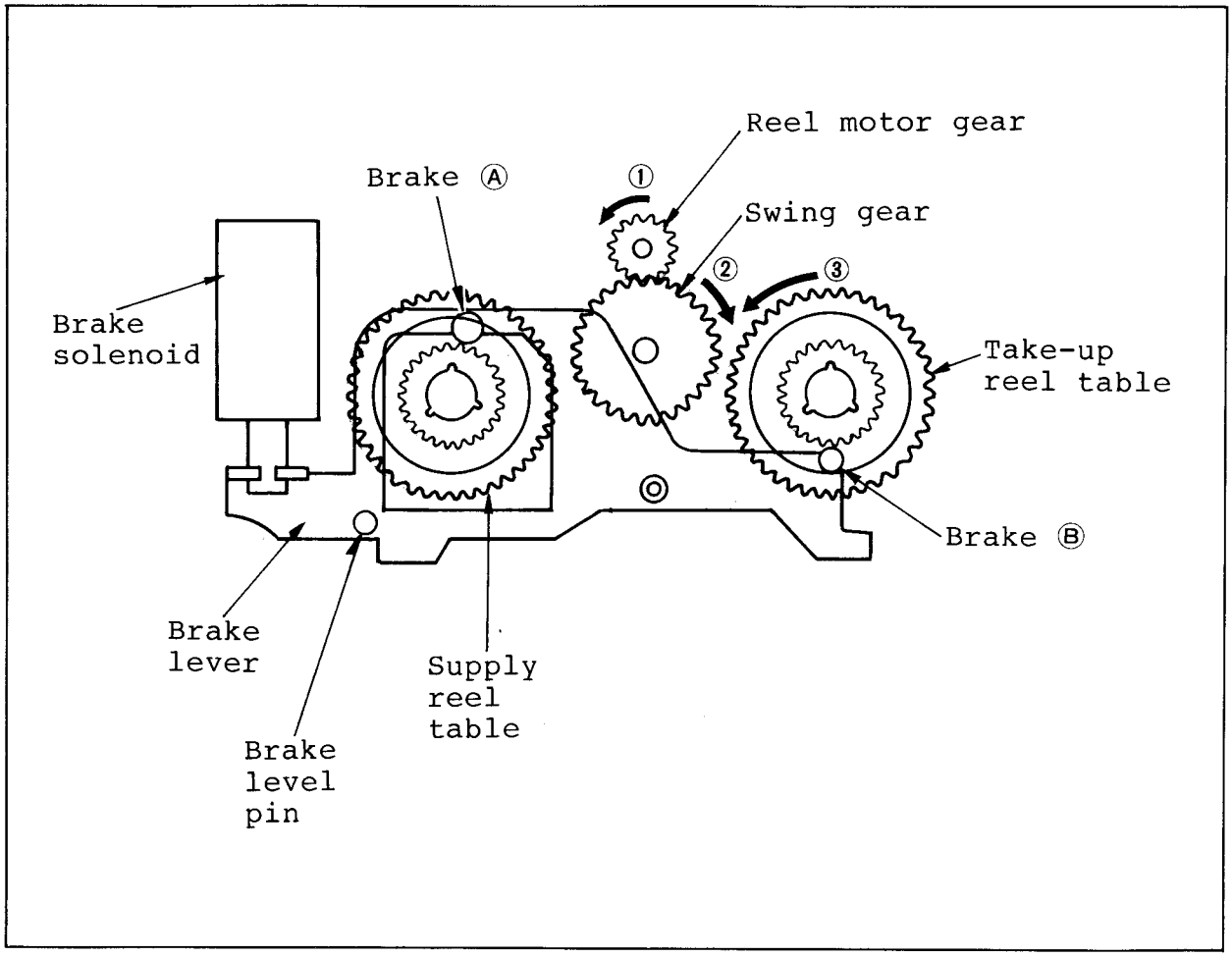
I ..... STOP mode, STOP/FF/REW
II .... PAUSE mode, CUE/REV
III ... PLAY mode, PLAY

* For the PAUSE operation, the mechanism is in the STOP mode.

Pin Ⓐ is connected to the head base plate, and the shape of the main gear causes the head base plate to move up and down in accordance with the mode.

(2) Operation of the reel tables

The reel tables are rotated by the reel motor. During PLAY, the motor rotates in the direction indicated by arrow ①, thus causing the swing gear and the take-up reel table to engage so that the take-up reel table rotates. The winding torque is determined by the reel motor.



Top View

During FF/REW, the reel motor rotates in the opposite direction, thus causing the swing gear to swing left or right and transmit the rotation of the motor to the corresponding reel table.

(3) Operation of the brakes

During the PLAY and PAUSE mechanism mode, the brake lever pin is pressed by the head base plate, thus mechanically releasing the brakes. During FF/REW and CUE/REV, the brake solenoid is drawn in, thus releasing the brakes.

3. Operation of the mechanism control circuit

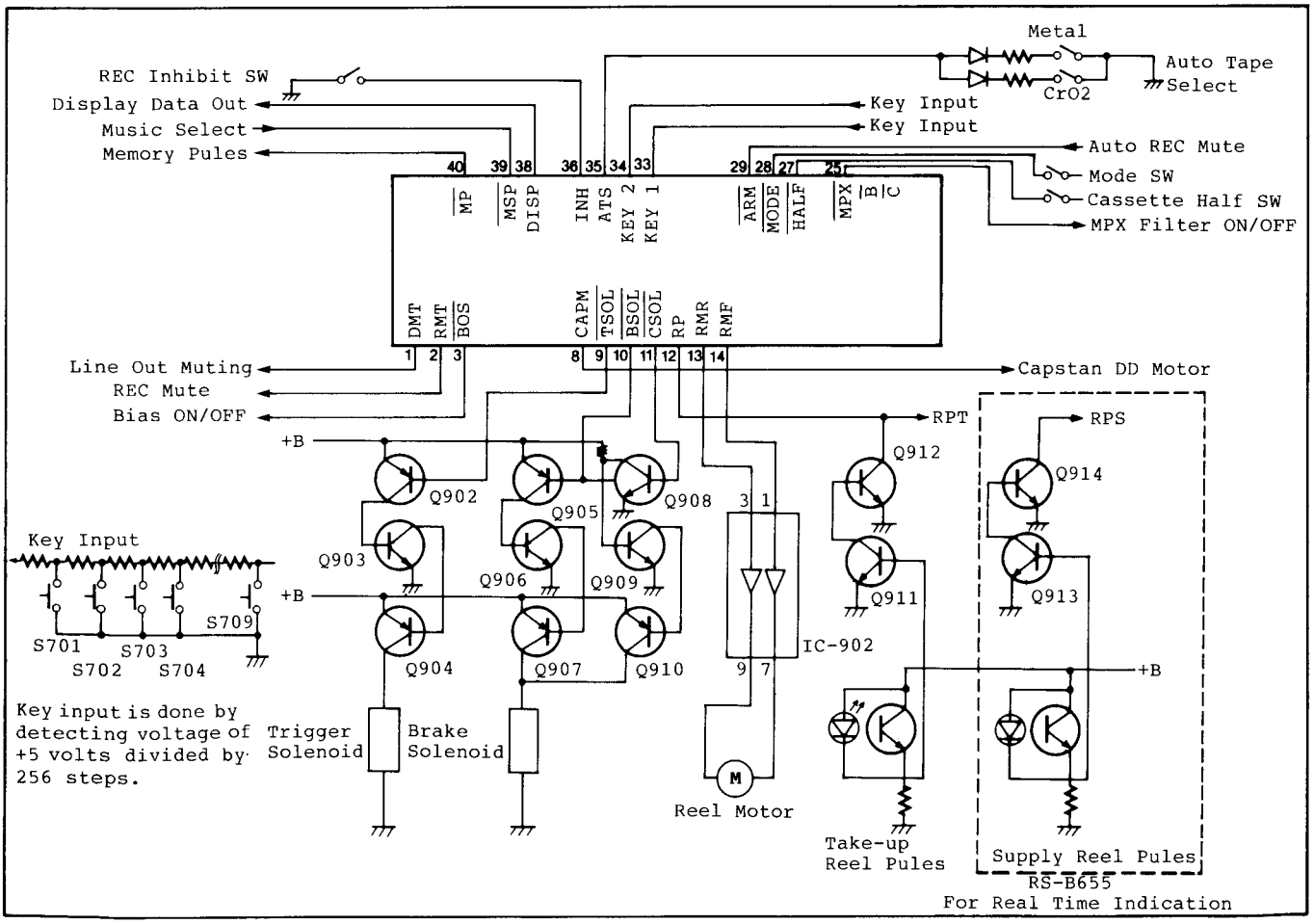
The mechanism and the entire deck are controlled by system control microcomputer IC-901 (MB88511). The signals from the key switches on the front panel are all input via key 1 and key 2.

The key input is detected by voltage detection of 256 division of 5 volts.

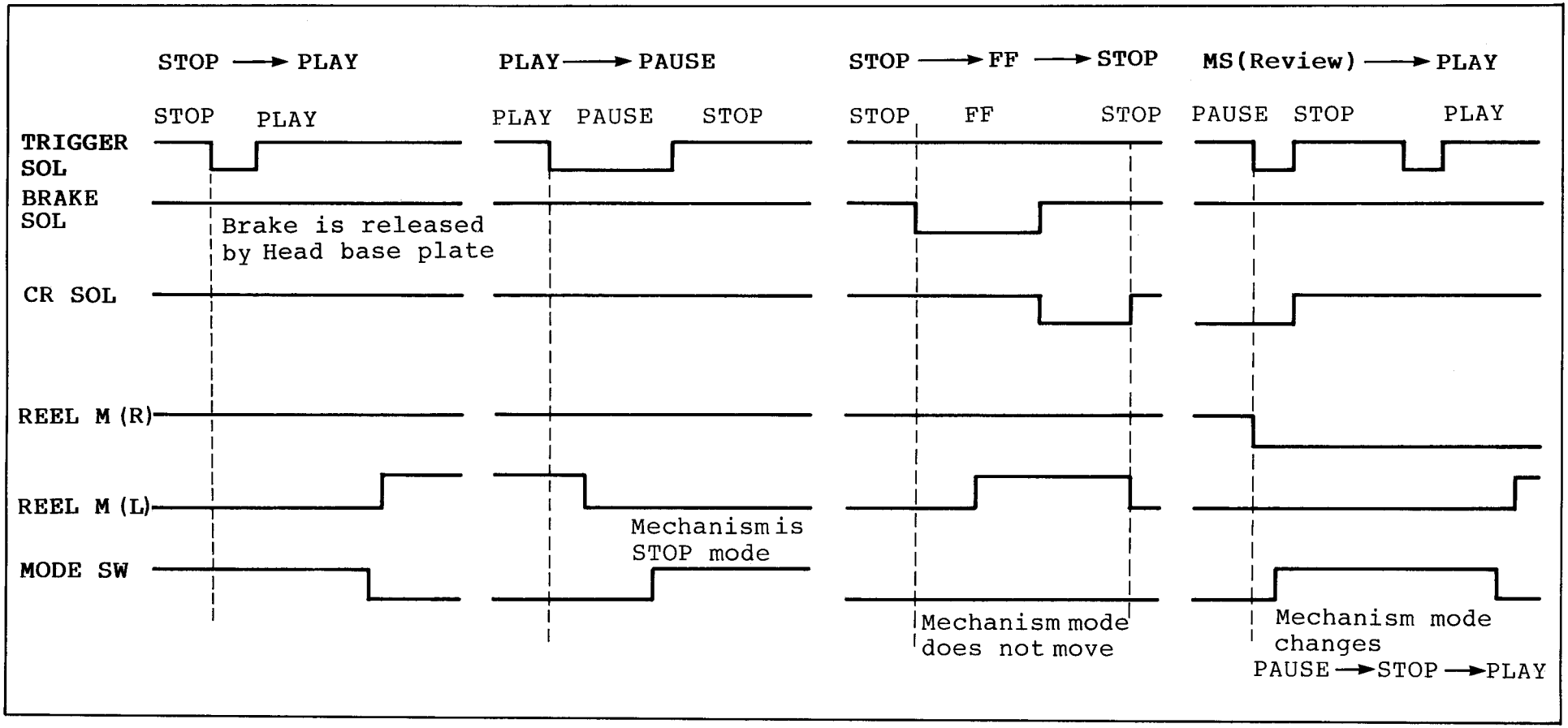
The trigger solenoid and the brake solenoid are controlled by the ON/OFF switching of transistors, and the CSOL signal is for the holding of the brake solenoid.

The take-up reel pulse and the supply reel pulse are supplied to fluorescent display IC-551 to become the input signals for the real time display (Model RS-B555 is not equipped with this function).

Mechanism Control Circuit



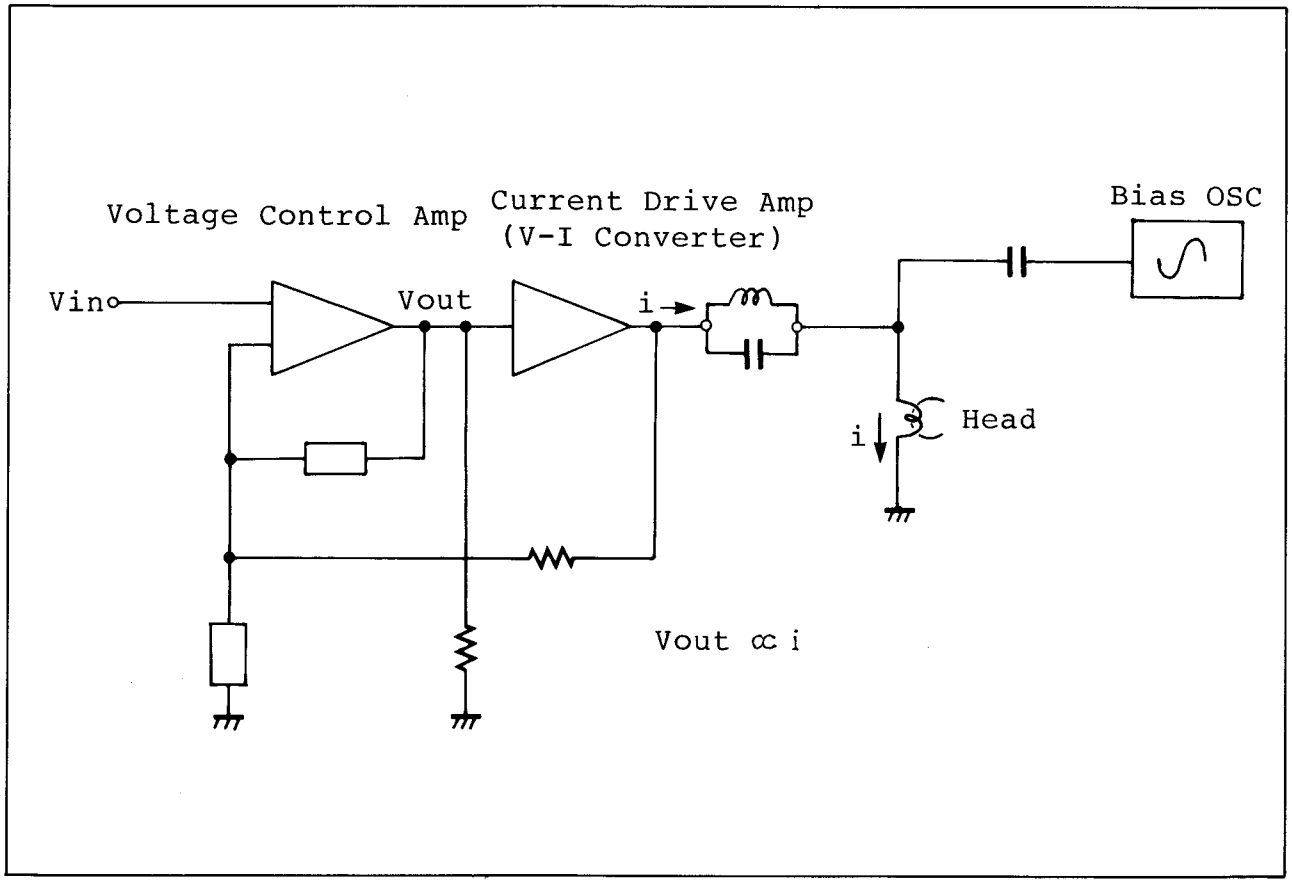
Timing chart of mechanism operation



(1) Mechanism mode is STOP when PAUSE is pressed.

(2) Brake solenoid is activated when FF/REW and CUE/REV operation.
(Brake solenoid become ON and after that, CR SOL become ON to hold the solenoid)

4. Linear magne-field Class AA recording amplifier



As in our previous Class AA amplifier, this new design consists of voltage control amplifier and a current supply amplifier and boasts true class A operation throughout. The voltage control amplifier incorporates equalizer elements in its feedback loop to provide a voltage output with recording equalizer characteristics.

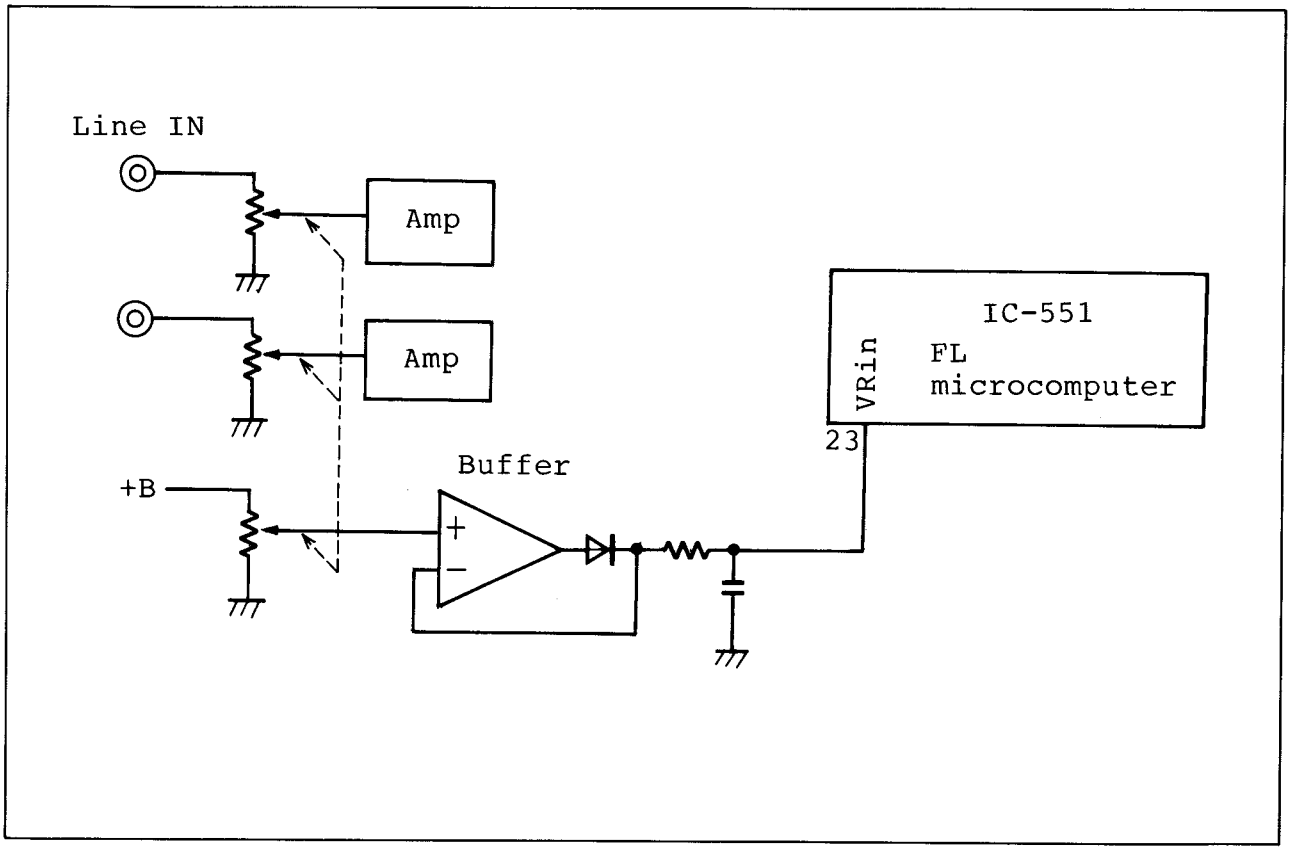
The current supply amplifier converts this output voltage into current, thereby supplying a current proportional to the signal voltage to the recording head.

In other words, even if the load impedance varies with frequency, the current supplied to the head is always proportional to the voltage control amplifier output voltage. This ensures that the signal filed generated by the recording head possesses the same gain and phase as the output signal from the voltage control amplifier and results in a remarkable improvement in waveform response.

5. APRS (Advanced Precise REC-Level System)

At last, relief with our new APRS system, setting the recording level is not only extermely simple, but very accurate as well.

The system uses a microcomputer to detect how far you turn up dor down the REC-level knob. It then calculates the new peak level to match the new setting.



First you set the deck to rec-pause and press the APRS button. The meters hold the highest peak reached during play from that point onward. At this point the reading on the meters is that for the current rec-level setting. If the level is too high, turn the rec-level knob down. The peak level shown on the meters goes down to reflect the new setting. If it is too low, turn the rec-level up. The peak level reading increases by precisely the amount you turned up the rec-level knob.

The Rec-level position is detected by voltage detection of 256 division of +5 volts.

Printed in Japan
K890712000HH/TN

ORDER NO. AD9004094A2

Service Manual

Cassette Deck

Dolby NR-Equipped
Stereo Cassette Deck

RS-B565

Color

(K) ... Black Type
(S) ... Silver Type

DOLBY B·C NR HX PRO *

* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

RS-B555 MECHANISM SERIES (AR350)

Area

Country Code	Area	Color
(E)	Continental Europe.	(K)(S)
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy	

Please file and use this supplement manual together with the service manual for Model No. RS-B555, Order No. AD8907231C5.

CHANGES

■ CHANGE IN REPLACEMENT PARTS LIST

Note:
1. Mentioned in this parts list are only those different from Model No. RS-B555 (E, EB, EG) all other parts are the same as for RS-B555 (E, EB, EG).
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components use only manufacturer's specified parts.
3. Parenthesized indications in "remarks" columns specify the area.
   Parts without these indications can be used for all areas.
4. "(K)" mark parts are used for black type only, while "(S)" mark parts are used for silver type only.
5. Parts other than "(K)" and "(S)" marked are used for all color types.

Ref. No.	Change of Part No. RS-B555 → RS-B565		Part Name & Description	Remarks
RESISTORS				
R933	ERDS2TJ472T	**ERDS2TJ332T**	C. RESISTOR, 1/4W, 3.3KΩ	
R944, R945	ERDS1FVJ180T	**ERDS1FVJ120T**	C. RESISTOR, 1/2W, 12Ω	⚠
R959	ERDS2TJ152T	**ERDS2TJ332T**	C. RESISTOR, 1/4W, 3.3KΩ	
R985	ERDS2TJ222T	**ERDS2TJ332T**	C. RESISTOR, 1/4W, 3.3KΩ	(EB)
R986	ERDS2TJ332T	**ERDS2TJ222T**	C. RESISTOR, 1/4W, 2.2KΩ	(EB)
CAPACITORS				
C1, C2	ECEA1EK4R7B	**ECA1HPXS4R7B**	E. CAPACITOR, 50V, 4.7μF	
C9, C10	ECEA0JU101B	**ECA0JPXS101B**	E. CAPACITOR, 6.3V, 100μF	
C13, C14	ECEA1EK4R7B	**ECA1HPXS4R7B**	E. CAPACITOR, 50V, 4.7μF	
C19, C20	ECEA1HKR47B	**ECA1HPXSR47B**	E. CAPACITOR, 50V, 0.47μF	
C21, C22	ECEA1CK100B	**ECA1CPXS100B**	E. CAPACITOR, 16V, 10μF	
C35, C36	ECEA1HK010B	**ECA1HPXS4R7B**	E. CAPACITOR, 50V, 4.7μF	

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

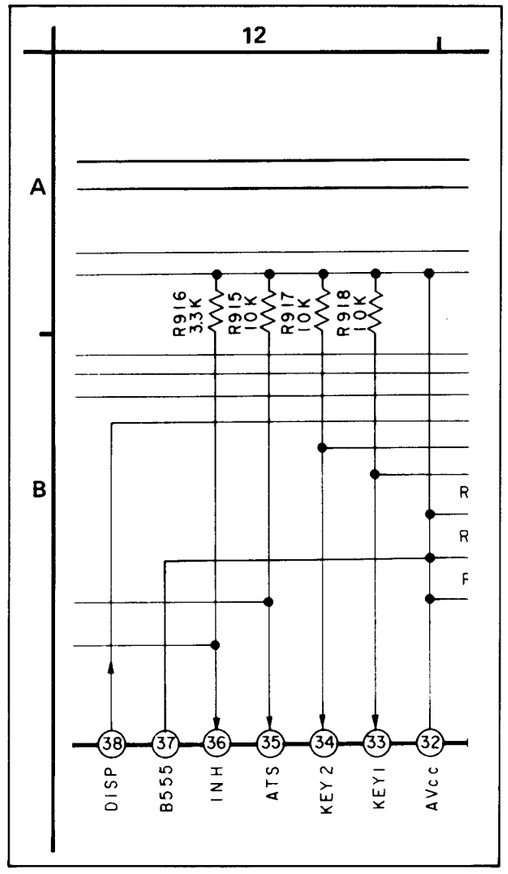
Ref. No.	Change of Parts No. RS-B555 → RS-B565		Part Name & Description	Remarks
CAPACITORS				
C43, C44	ECEA1CK100B	**ECA1CPXS100B**	E. CAPACITOR, 16V, 10μF	
C45, C46	ECEA1EK4R7B	**ECA1HPXS4R7B**	E. CAPACITOR, 50V, 4.7μF	
C47, C48	ECEA1HK010B	**ECA1HPXS010B**	E. CAPACITOR, 50V, 1μF	
C49, C50	ECEA1CK100B	**ECA1CPXS100B**	E. CAPACITOR, 16V, 10μF	
C403, C404	ECEA1EK4R7B	**ECA1HPXS4R7B**	E. CAPACITOR, 50V, 4.7μF	
C411, C412	ECEA1CK100B	**ECA1CPXS100B**	E. CAPACITOR, 16V, 10μF	
C425, C426	ECEA1CK100B	**ECA1CPXS100B**	E. CAPACITOR, 16V, 10μF	
C602, C603	ECEA1EU222E	**ECA1EPT222E**	E. CAPACITOR, 25V, 2200μF	⚠
C610, C611	ECEA1AU102B	**ECA1AAX102B**	E. CAPACITOR, 10V, 1000μF	
C919	————	**ECFR1C104MR**	C. CAPACITOR, 16V, 0.1μF	Addition
TRANSISTORS				
Q303	2SB621ARSTA	**2SB1357EFTA**	TRANSISTOR	⚠
COIL				
L902	————	**SLQX272–1YT**	COIL	Addition
CONNECTORS				
CN6A	RJS1A1703	**RJS1A1704**	CONNECTOR (4P)	
CN6B	RJS1A1703	**RJS1A1705**	CONNECTOR (5P)	
CN6C	RJS1A1703	————	CONNECTOR (3P)	Deletion
JACKS				
JK2	SJJ146B	**SJJD19**	JACK, HEADPHONES	
JK3, JK4	RJJ65MS01	**RJJ65MA01**	JACK, MIC	
CABINET AND CHASSIS				
1	RKM0036–K	**RKM0036–K**	CABINET	(K)
		RKM0036–S		(S)
2	RYF0027	**RYF0027**	CASSETTE LID	(K)
		RYF0027–S		(S)
3	RYQ0032	**RYQ0032**	ORNAMENT	(K)
		RYQ0032–S		(S)
4	SNE2129–1	**SNE2129–1**	SCREW	(K)
		SNE2129		(S)
8	RGR0024–B	**RGR0024–V**	REAR PANEL	(E)
8	RGR0024–F	**RGR0024–W**	REAR PANEL	(EB)
8	RGR0024–M	**RGR0024–X**	REAR PANEL	(EG)
9	RGU0030	**RGU0030**	BUTTON, POWER	(K)
		RGU0030–S		(S)
10	RGV0022	**RGV0022**	KNOB, TIMER	(K)
		RGV0022–S		(S)
11	RGW0032	**RGW0032**	KNOB, BALANCE LEVEL	(K)
		RGW0032–S		(S)
12	RGW0033	**RGW0033**	KNOB, REC LEVEL	(K)
		RGW0033–S		(S)
14	RFKNSB555EAK	**RFKNSB555EAK**	FRONT GRILLE ASS'Y (1)	(K)
		RFKNSB555EAS		(S)

Ref. No.	Change of Parts No. RS-B555	→ RS-B565	Part Name & Description	Remarks
15	RFKNSB655EBK	**RFKNSB655EBK**	FRONT GRILLE AS'Y (2)	(K)
		RFKNSB555EBS		(S)
18	RMK0026–1	**RMK0026–2**	CHASSIS	
19	RMN0022	**RMN0022**	ORNAMENT	(K)
		RMN0022–S		(S)
20	RFKGSB555E–K	**RFKGSB565E–K**	FRONT PANEL ASS'Y	(K)
		RFKGSB565E–S		(S)
21	RGK0117	**RGK0117**	ORNAMENT, BUTTON (A)	(K)
		RGK0117–S		(S)
22	RGK0119	**RGK0119**	ORNAMENT, BUTTON (B)	(K)
		RGK0119–S		(S)
23	RGU0130	**RGU0130**	BUTTON, EJECT	(K)
		RGU0130–S		(S)
24	RFKNSB555E–K	**RFKNSB555E–K**	BUTTON ASS'Y, COUNTER	(K)
		RFKNSB555E–S		(S)
25	RGU0132	**RGU0132**	BUTTON, NOISE REDUCTION	(K)
		RGU0132–S		(S)
26	RGU0133	**RGU0133A**	BUTTON, OPERATION	(K)
		RGU0133–S		(S)
36	XTB3+6J	**XTB3+6G**	SCREW	
41	————	————	GND PLATE	(K)
		RMC0068		(S) Addition
42	————	————	GND PLATE	(K)
		RMC0069		(S) Addition
MECHANISM PARTS LIST				
109	REX0075	**REX0075–2**	LEAD WIRE BLOCK	
PACKING MATERIAL				
P1	RPG0256	**RPG0523**	CARTON BOX	(K)
		RPG0619		(S)
P2	RPN0179	————	PAD, FRONT/BACK	Deletion
P3	SPS5185	**SPSD152**	PAD, ACCESSORIES	
P5	————	**RPN0345A**	PAD, FRONT (L)	Addition
P6	————	**RPN0345B**	PAD, FRONT (R)	Addition
P7	————	**RPN0345C**	PAD, BACK (L)	Addition
P8	————	**RPN0345D**	PAD, BACK (R)	Addition
ACCESSORIES				
A1	RQF0297	**RFKSSB565E–K**	INSTRUCTION MANUAL	(E)
A1	RQF0298	**RQT0552–B**	INSTRUCTION MANUAL	(EB)
A1	RQF0299	**RQT0553–D**	INSTRUCTION MANUAL	(EG)
A4	————	**RQA0013**	WARRANTY CARD	Addition
A5	————	**RQCB0169**	SERVICENTER LIST	Addition

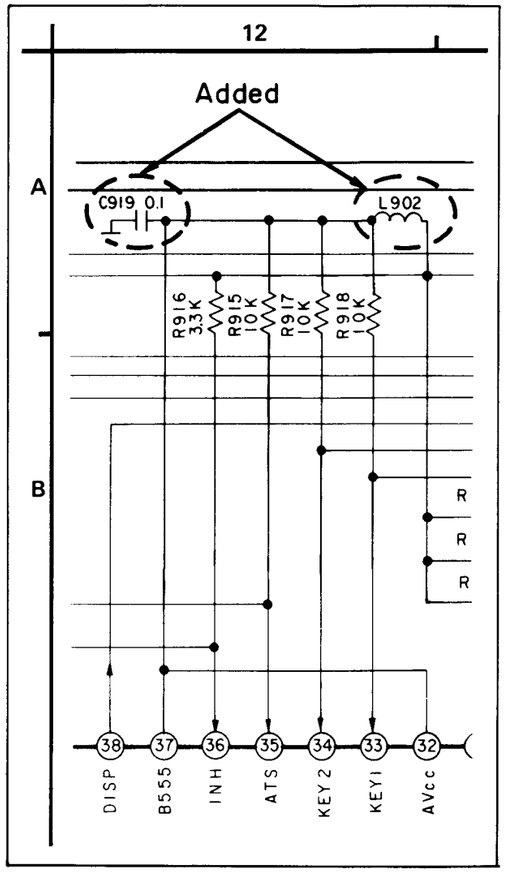
■ SCHEMATIC DIAGRAM

C MAIN CIRCUIT (See page 22 of service manual in original Model No. RS-B555.)

(ORIGINAL)



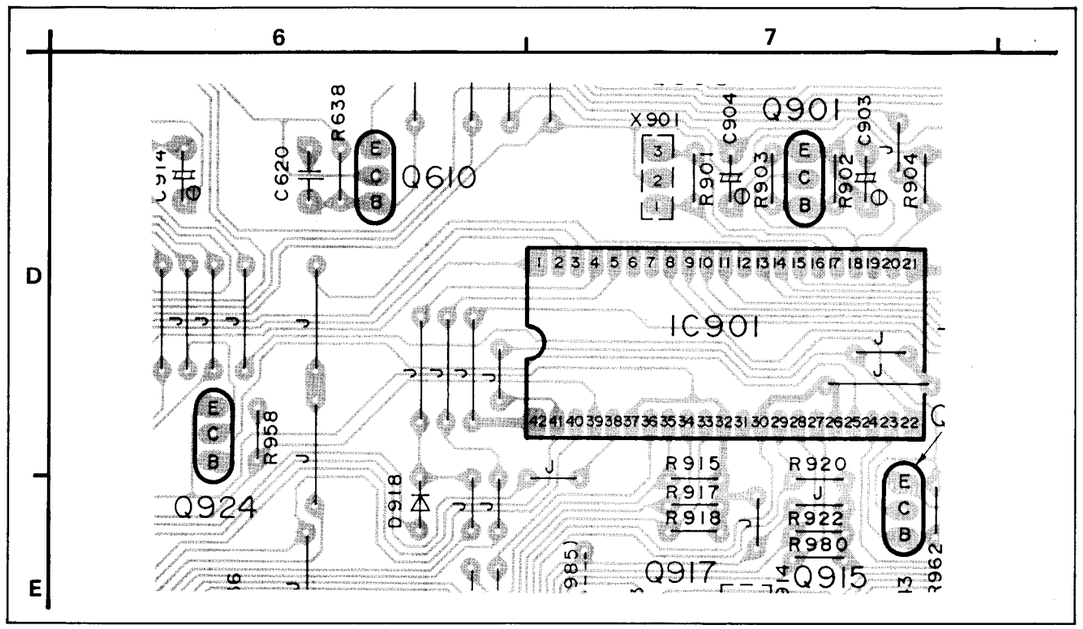
(NEW)



■ PRINTED CIRCUIT BOARDS

C **MAIN P.C.B.** (See page 29 of service manual in original Model No. RS-B555.)

(ORIGINAL)



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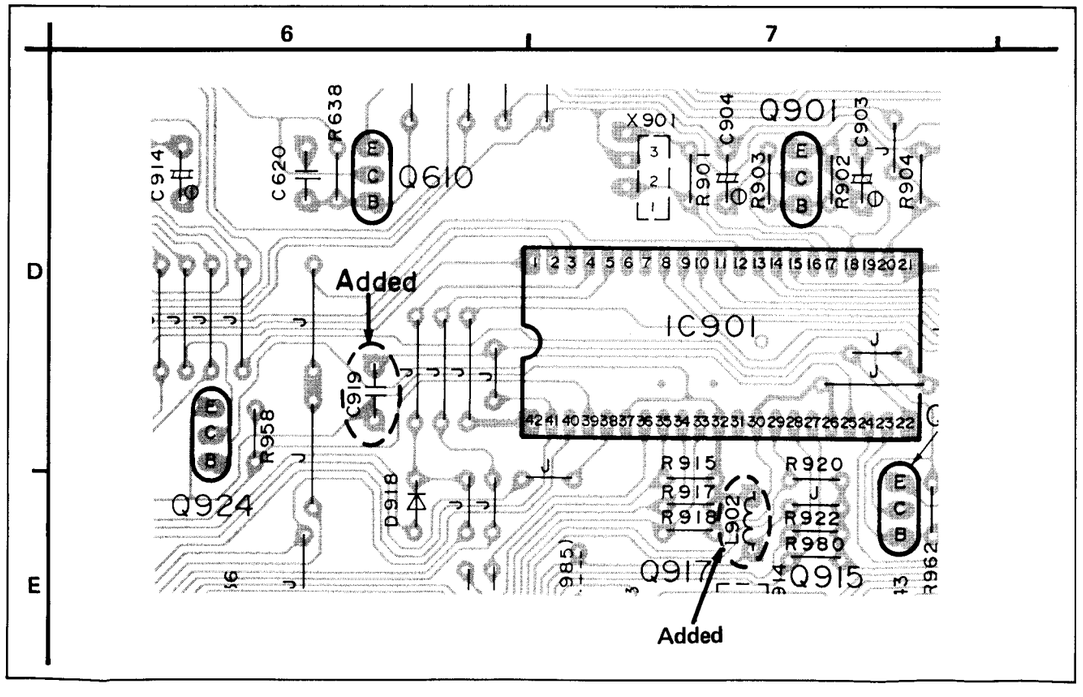
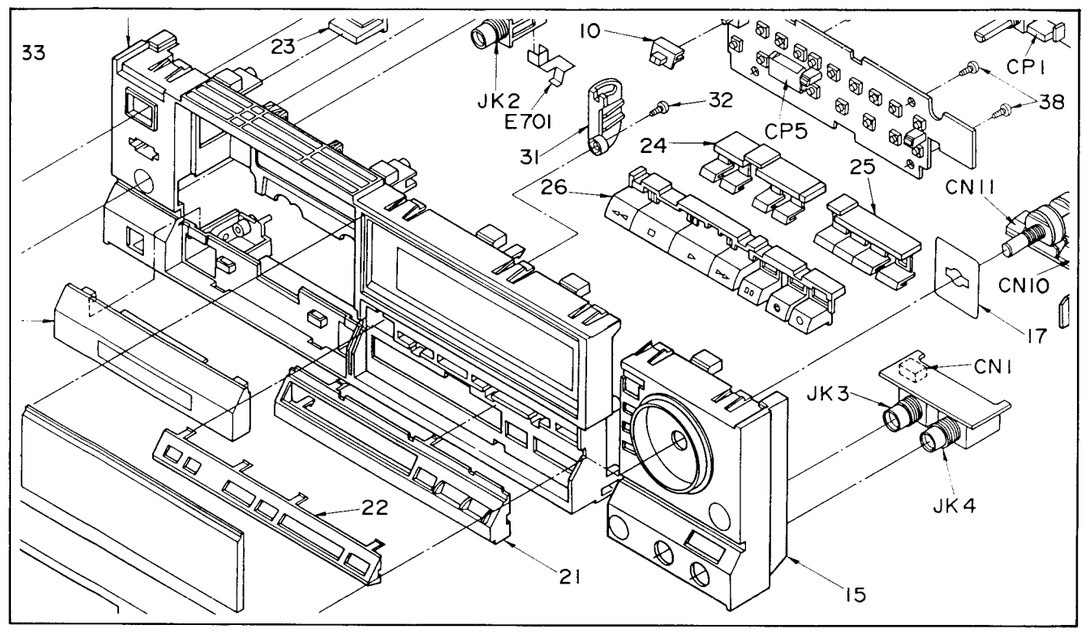


■ EXPLODED VIEWS

• **Cabinet parts** (See page 37 of service manual in original Model No. RS-B555.)

(ORIGINAL)



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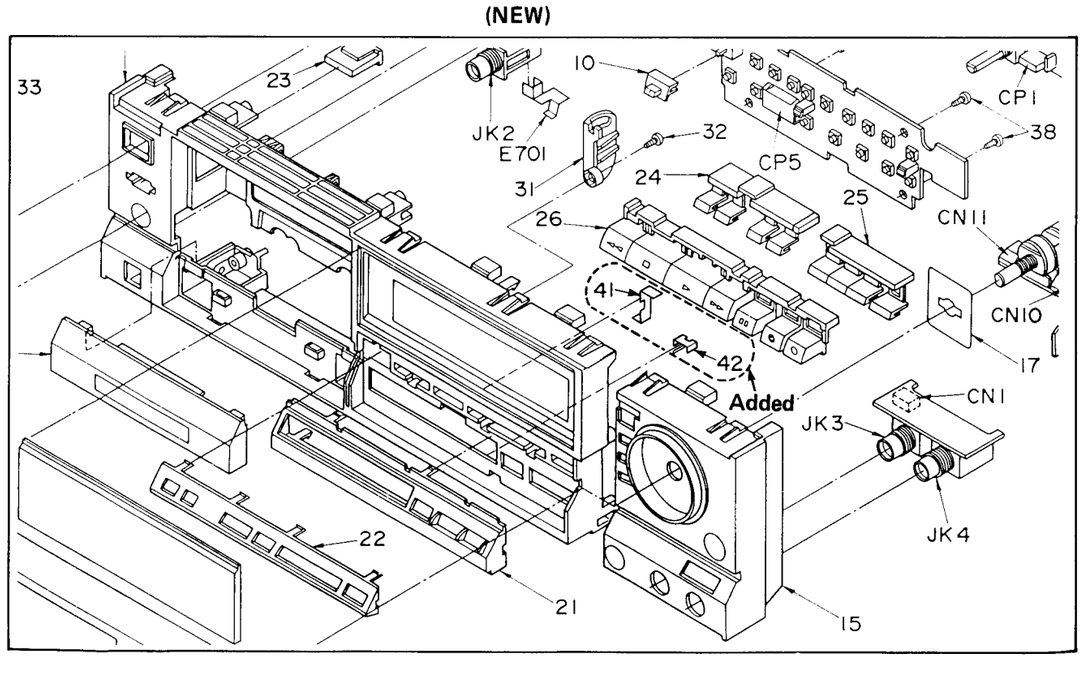

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